
UNITED STATES COURT of APPEALS

FOR THE NINTH CIRCUIT

PUBLIC UTILITY DISTRICT NO. 1 OF PEND
OREILLE COUNTY, *Appellant*,

vs.

CITY OF SEATTLE, *Appellee*.

CITY OF SEATTLE, *Appellant*,

vs.

PUBLIC UTILITY DISTRICT NO. 1 OF PEND
OREILLE COUNTY, *Appellee*.

*On Appeal from the Judgment of the
United States District Court for the Eastern District
of Washington*

APPENDIX TO

BRIEF OF APPELLANT-APPELLEE

Public Utility District No. 1 of Pend Oreille County

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INDEX TO THE APPENDIX

	<i>Page</i>
Memorandum of Intent	1
Direct Examination of the Witness, John L. Vaughan, except with reference to his Qualifications, and Pertinent Portions of his Cross Examination (in the case at bar)	4
Direct Examination of the Witness, Neville C. Courtney, except with reference to his Qualifications, and Pertinent Portions of his Cross Examination (in the case at bar).....	58
Chapter 125 of the Session Laws of 1907	99
Excerpt from the report of the Commissioners to the Honorable C. C. Wycke, United States District Judge for the Western District of South Carolina and to the Honorable F. M. Scarlett, United States District Judge for the Southern District of Georgia in the <i>Twin City</i> litigation	100
Direct Testimony of the Valuation Witnesses in the <i>Twin City</i> Litigation	108
Mr. William P. Creager	108
Mr. R. C. Johnson	122
Mr. Neville C. Courtney	136
Exhibit 40 in <i>Twin City</i> Litigation	151

INDEX TO THE APPENDIX (Cont'd)

	<i>Page</i>
Pertinent Excerpts from Ex. D-I-144, the Testimony of the Owner's Valuation Witnesses in the <i>Grand Hydro</i> Litigation	152
Joel D. Justin	152
William F. Uhl.....	170
William P. Creager	178
Robert E. Horton	190

APPENDIX**MEMORANDUM OF INTENT****In Connection with
POWER DEVELOPMENT ON THE PEND OREILLE RIVER**

August 25, 1954

At a meeting today with representatives of PUBLIC UTILITY DISTRICT NO. 1 of PEND OREILLE COUNTY (hereinafter referred to as the "DISTRICT"), and representatives of CITY OF SEATTLE DEPARTMENT OF LIGHTING (hereinafter referred to as the "CITY"), the following suggestions for a proposed agreement between the District and the City were proposed as the basis of an eventual settlement in recognition of the interests of both parties in the construction and development of power in the Z Canyon area of the Pend Oreille River. The suggestions of course are only an attempt to arrive at some basic principles of agreement which would have to be submitted to and approved by the respective authorities of the two agencies.

1. The District owns certain lands and rights in the Z Canyon area, and has definite plans for the development of a dam and power facilities at the Z Canyon site.

2. The City has applied to the Federal Power Commission for a preliminary permit to conduct investigations leading to the development of a dam and powerhouse in the Z Canyon area, the

permit application being designated as the "BOUNDARY" permit.

3. The District has filed an intervention with the Federal Power Commission opposing the application of the City for a preliminary permit.

4. The Pend Oreille Mines and Metals Co. has filed an intervention with the Federal Power Commission opposing the application of the City for a preliminary permit.

5. The Department of Interior in filing its report to the Federal Power Commission on the City's application for this preliminary permit has stated that because of the possible damage by the construction of a dam at the Boundary Site to the mining interests in that area that the construction of a dam at this site should be indefinitely postponed.

6. It is the desire of the parties to develop a plan which will protect the interests and facilities of all parties concerned, and result in the building of this much needed low-cost power project.

7. In view of these facts and of the desirability of finding a solution to the problems of this power project which will be satisfactory to the City and the District and will recognize their rights, and will be satisfactory to the mining interests, and will provide both the City and the District with an additional source of low-cost power, it is agreed that the City and the District should attempt to work out a solution to these problems together.

As a basic principle for arriving at a solution of the equitable arrangements or agreements to be entered into between the District and the City, it is suggested that one of the parties should accept the responsibility of building, financing, owning and operating the facilities necessary to store and control water, and the other party should accept the responsibility of building, financing, owning and operating the facilities necessary to convert that water into electricity, and that this division or responsibility should be as nearly as is physically appropriate in the development of these two functions on a 50-50 basis so that each would have as a result of its financial contribution approximately 50 percent of the power from the project in perpetuity. By this arrangement it is felt that each of the parties would be carrying out its basic responsibilities to the people that it serves.

Some mutually agreeable arrangement between the District and the City compatible with the financing requirements of the District will be worked out for the sale of power surplus to the needs of the District.

Direct Examination of the Witness, John L. Vaughan, Except with Reference to his Qualifications, and Pertinent Portions of his Cross Examination.

DIRECT EXAMINATION

* * *

By Mr. ENNIS:

Q. Mr. Vaughan, have you made an appraisal of land and land rights owned by the Public Utility District of Pend Oreille County?

A. Yes, sir.

Q. Along the Pend Oreille River?

A. Yes, sir, I have.

Q. Would you describe the property and rights that you appraised?

A. May I go to the blackboard to point it out?

Q. Yes.

A. The property appraised consists of various parts. The one fee title to uplands is designated in blue on the map, of which of that portion shown on the map, it is my understanding that only a part is being taken by the action. According to planimetering measurements, the total area prior to the taking was 191.47 acres, and of that, 81.73 acres is being taken and is included in the appraisal.

As shown on the map in red, fee titles to shore lands, running from a point approximately one mile south of the Canadian border up to approximately the location of the Z Canyon site, and overlapping the perpetual easements on the shore lands in the Box

Canyon area, and then the perpetual easements for overflow from there clear up the river to a point in the vicinity of Box Canyon dam.

Q. I believe, Mr. Vaughan, when you started to talk about the flowage rights in the overlap area, I think you mentioned Box Canyon area. Did you mean Box Canyon area at that time?

A. I'm sorry, Z Canyon area.

Q. Mr. Vaughan, what was the purpose of your appraisal, as you understood it?

A. The purpose of my appraisal was to arrive at an opinion as to the fair market value of all of these rights as of the current date.

Q. Would you give us your definition of "fair market value?"

A. "fair market value" is the highest price, in terms of money, which could be realized for the property if offered for sale on the open market, both buyer and seller having full knowledge of all of the uses to which the property could be put, with the buyer under no compulsion to buy and the seller under no compulsion to sell.

Q. What is the first step that you follow in making such an appraisal?

A. Well, the first step is to inspect the property and find out what it is you are appraising. The second step is to arrive at an opinion as to the highest and best use of the property. The determination of highest and best use would, of course, dictate, or at least in-

dicate, the appraisal approaches or procedures which should be followed in making the appraisal.

Q. Did you make an inspection of this property?

A. Yes, I did.

Q. And —

A. I have made several inspections of the property.

Q. In what period of time were these inspections?

A. Well, the first inspection was made before any work was done on the appraisal itself, the latter part of June, to the best of my recollection, it was June 30th, in which we drove down the Pend Oreille River, inspected the Box Canyon dam, generally observed the river from Box Canyon down to Z Canyon, walked down into the Z Canyon site and looked over the terrain and topography of the Z Canyon site, and then inspected the Boundary dam and the status of construction at that date.

Subsequent to that time, I have made other inspections of the river from the Boundary dam site area up as far as above Noxon Rapids on the Clark Fork.

Q. Did you make a determination of highest and best use in this case, in your opinion?

A. Yes, sir, I did.

Q. And what did you determine in that regard?

A. Well, maybe I could explain how, what I did, to arrive at that.

Q. Yes, would you do that?

A. Well, first, I had prints made available to me of engineering studies and drilling that had been done in the Z Canyon site way back in the early years, I

don't recall the exact date. I was advised that the measuring station on the river bank was put in back as far as 1928. Over a period of time, numerous studies and plans were made leading to and planning for the development of a hydroelectric plant installation, and as a part of the acquisition of the property by the present owners, all of the studies, engineering plans, and other data which had been prepared by the previous owner were acquired as a part of the property rights of the PUD.

In addition, there has been testimony by qualified experts in this case as to stream flow studies, feasibility studies, and engineering feasibility and other factors, which lead me to the conclusion that there can be no question that the highest and best use of the site is for a hydroelectric installation.

Q. Did you then make that conclusion in your own mind?

A. Yes, I did.

Q. After arriving at your opinion of the highest and best use, Mr. Vaughan, what did you next consider?

A. I next gave consideration to the best appraisal procedure that should be followed in evaluating these rights, and I might mention at this point, after coming to the conclusion that the highest and best use of the property was for a dam site, it assumed a different identity.

I had talked about the shore lands, the fee title, the uplands, the fee title, and the other component parts of the property owned, and in my opinion, all of these

component parts, after being assembled into the makings of the hydroelectric plant site, then become what is sometimes called a "bundle of rights" and it is the highest and best use of the bundle of rights, not one acre in it that I am considering in this appraisal.

Since it is necessary to appraise the right to build the hydroelectric dam, which is created by these rights, there are several approaches which can be considered.

Of the conventional appraising practices, there are three basic approaches to value, the reproduction cost new, the market or comparable data approach, or the capitalization of income or economic approach. Those are the methods.

On the reproduction cost approach which is normally applied to man-made properties which can be rebuilt or reproduced, that possibility did not exist in this case.

However, there is a sub-branch of this, sometimes called the "theory of substitution" in which the cost of substituting an alternate property of equal value can be used to measure the value of the property taken.

So, I first investigated the possibility of substituting an equally desirable property right for the property right to be taken, and the studies I made in the past and those made by others which I reviewed currently lead me to the conclusion that there is no available, equally desirable hydroelectric plant site in the general area.

Another possible substitution, since the purpose of the hydroelectric plant is to produce electrical energy would be the theoretical possibility of substituting

a thermal generation plant, which is dependent on heat for the production of electrical energy.

Thermo generation plants use various types of fuel, including gas, coal, oil, and nuclear energy. Nuclear energy seems to be pretty much speculative in its present stage at the moment, and there must be a great deal more experimentation before such energy can be produced at a cost which would be competitive with that at a good hydroelectric installation.

In the studies I have made in the East of mine-mouth thermo plants, they are approaching the cost of energy produced by hydroelectric plants however there is no such source of fuel available in the general vicinity here, and the cost of transporting oil or gas to this location led me to the conclusion that there is very little possibility in the foreseeable future of a substitute for this hydroelectric plant in the form of any thermo plant in this general area to produce power which would be competitive with the hydro plant.

So, since we cannot use the reproduction cost approach, we next consider the market data approach, conventional market data or comparable sales, and you go into the area and find out what comparable acres have sold for and apply it as a measure of value.

I can find no instance in which a bundle of rights, completely assembled, giving the person the advantage of the permanent location, the permanent stream flow, and 99 percent of the rights necessary to build the dam are sold in one lump sum.

I did not consider that the price paid for land on an acreage basis has any relation to the valuation of these rights as a hydroelectric plant site.

So, we cannot use the comparable sales approach as such. However, there is an element of comparable data which I did use; the purpose of building a hydroelectric installation or any electrical installation is only the output of power, and the output of power is normally measured in net generation or in kilowatt hours per year.

So, I adopted that as a basis of comparison, as a primary basis of comparison, and I used the readily available statistical sources, principally the Federal Power Commission bulletins.

I was able to draw an investment comparison, from an investment standpoint, as a function of the net generation output of a hydroelectric installation in the area.

I made a further comparison on a broader scale, with the investment in hydroelectric facility as a function of the name plate capacity, again using Federal Power Commission data as a basis.

These were the primary factors used in arriving at my conclusions with respect to value.

Q. I think you mentioned a third method?

A. The economic or the income approach, used in valuing businesses. I think a hydroelectric installation cannot be considered generally as a profit making enterprise. Certainly there are many public utilities owned by private investors for the purpose of making

a reasonable profit, but as clearly demonstrated by the fact that they are subject to regulation, the primary purpose of them is a public service, to deliver power to the users at the lowest feasible cost, an economically sound cost.

In view of this fact I did not think it would be proper to use any form of the income approach in evaluating these rights.

The cost of the facilities necessary to generate a given amount of power are substantial, and the factors determining the values of the dam site property are briefly summarized in four categories.

First, what it would cost to build the hydroelectric dam; secondly, after it was built, what would it produce, how many units of power would be available; what it would produce it for, how much it would cost to produce it; is there a market demand for it that could be satisfied at a rate which would be economically feasible.

All of these factors have to be considered, and I have considered them in my analysis, and as far as the general economic feasibility is concerned, to me that is beyond question.

* * *

I was attempting to explain the general procedure used, and the general practices considered, rather than giving any conclusions at this time.

In considering the economic feasibility of erecting a dam site, there are general factors which must be considered, and specific factors.

The general factors would include, is there a need for a hydroelectric project, additional hydroelectric power in the area?

I don't think it takes a qualified economist to read the Wall Street Journal and see that 20 companies in the New Mexico-Arizona-California area are getting together in a group to coordinate their expenditures and efforts to develop additional power because of the critical need for this power.

I was able to review studies made by bona fide economists in connection with bond issues of proposed projects in the general vicinity, and to review their conclusions as to the need for power and the economic feasibility of building such projects.

I reviewed all these data in general terms as to the overall need, and I reviewed the cost estimates prepared by the Harza Engineering Company, giving the direct costs and construction costs of building a high or low project, and I reviewed the testimony presented by a representative of the Beek Company, which deal with a study of net generation and economic feasibility and production costs.

I have utilized all of this information in arriving at my conclusion as to the value.

By Mr. ENNIS:

Q. What factors in your opinion would be considered or should be considered by an informed purchaser in arriving at an opinion of value of the properties.

A. I think any value of the properties, I think any informed buyer or investor in connection with an in-

vestment of this magnitude would give careful consideration to all of these factors.

Q. Did you consider what effect, if any, these factors that you have discussed, the availability of the property for the use that you have mentioned would have upon a willing buyer?

A. Yes, sir.

Q. Did you consider what effect these factors that you have discussed, the availability of the property for use that you have discussed, would have on the fair market value of the property under present conditions?

A. Yes, sir.

Q. After giving consideration to all of these factors, did you arrive at an opinion of fair market value, as you have defined that term?

A. Yes, I did.

Q. What value did you arrive at?

MR. HELSELL: We object to this question being asked of this witness, we object to this witness being asked to express his conclusion as to value on several grounds.

He has now outlined for us the basis upon which he arrived at his opinion. He has outlined his qualifications. It does not appear so far that he has any familiarity with the going prices in that area for this so-called "bundle of rights" that he is evaluating. He was asked if he used that approach, and he says that he has not used it.

He has told us that he used some comparisons from studies from the Federal Power Commission, of other

damsite acquisitions, presumably in other parts of the country.

If I have gathered from his statement that he is simply using figures that are shown on these statistics as to how much certain project properties, with certain kilowatt hours in production have paid, in their cases for land and land rights.

Or, he tells us he has used an alternative approach of name-plate rating, and then taken statistic as to how much proprietors of comparable plants, by name-plate rating, have paid for their land and land rights.

On the face of it, it is a highly improper basis to arrive at value, because as your Honor can see, in these statistics, or lands, there are lands everywhere in the United States. Figures involving what condemnors, public agencies, have paid for property as the result of jury verdicts or as the result of negotiations under the threat of condemnation, and various statistics therefor, that the witness says that he has used those statistics are not sufficient as a matter of law to support an opinion on that subject.

Lastly, he told us that he considered the economic approach, to the extent that he considered market, and so forth, cost of producing power based on the cost of construction of the project, and those matters but I do not understand that he is using the income approach to value, and if he weren't of course we would object on the same grounds as raised previously in this proceedings.

In summary, therefor, we object to this witness expressing an opinion on the basis which he has thus far indicated that he used in arriving at his conclusion, and on the basis, demonstrably as he has described it, it does not provide a sufficient basis for him to express a legal opinion on this subject.

The COURT: You do not attack the man's qualifications?

Mr. HELSELL: In the sense that I mentioned, your Honor, that the man has not indicated that he has ever appraised, as such, this bundle of rights, involving several tracts of land for damsite purposes, it may be that he has, but simply didn't say so, but we attack his qualifications, because of the complete absence of any showing that he has ever undertaken any study like this one, with raw lands which he has considered as a dam site, and on which he has placed a valuation.

Mr. ENNIS: I think the qualifications of this witness show beyond any question of a doubt the wide range of the experience that he has had, his experience in and having outlined the factors that he took into consideration, factors that are always recognized as proper to be taken into consideration by an expert witness, it established that he has a basis for expressing his opinion as an expert witness as to the fair market value that he has been discussing.

The COURT: Don't you think he should explain the basis on which he makes his evaluation?

Mr. ENNIS: I intend to go into that in detail, your Honor, as to how he reached his evaluation that he has

described, the matters and things that he took into consideration in arriving at his view.

The COURT: It is my understanding that he is using the market value approach, but without any comparable sales, because he found none, that it was just a bundle of rights being sold. That is my understanding.

Mr. ENNIS: That is my understanding.

The COURT: It is a market value approach isn't it?

Mr. ENNIS: It is an offshoot of the market value approach, I suppose.

The COURT: Not using any comparable sales or comparable data. I will let him answer. The objection is overruled.

Mr. HELSELL: Just one further objection, your Honor.

Here we have a witness, your Honor, that is basing his value on a portion of an overall tract taken. He has given us no indication that he has considered the overall tract before the taking or after the taking, or the value of the remainder.

I submit, your Honor, that on the same basis that Mr. Oberbillig's views are not admissible because of his failure to use that approach, so should the views of this witness be objectionable, on the same ground. It is a method of just testing, without actually using the lands involved, and using the approach that must be used legally.

Mr. ENNIS: He is appraising everything that they took.

The COURT: Aren't they taking just a portion of the uplands, that is the only additional objection that Mr. Helsell has made.

By Mr. ENNIS:

Q. I will ask you, Mr. Vaughan, would your opinion of value be any different, if you consider, with reference to the uplands, if you consider the entire 191 acres as distinguished from the 81 acres?

A. I did consider that, sir, and I will so state in my testimony, and that is the reason I designated what was involved, what was the part taken, what was the part remaining. I considered that, sir.

The COURT: I will let him answer.

The WITNESS: I will have to give it in two parts, because of the high and low dam considerations, and explain a parallel which might explain why this is necessary.

If it is considered that an apartment house site, if the highest and best use indicated that it should be a three story apartment house, the underlying land would have one value; if, on the other hand the highest and best use indicated a 25 story apartment house, the value of the land would be considerably greater.

We have the situation here that there is a question as to whether or not the highest and best use of this site, permitted use, would be for the so-called high dam or low dam.

The high dam would certainly appear to be the highest and best use, provided such construction is permitted, but since I am not qualified to express an

opinion as to the legal permissibility, I will have to give my answer on both, assuming that a high dam could be built, and assuming that a low dam could be built.

MR. HELSELL: Before the witness does that, your Honor, in view of this additional development, may I object to this approach, because it is up to this witness, as I understand the law with reference to this kind of an expert witness, to arrive at the highest and best use for land, real estate, and then to arrive at a value for that real estate, so that, in abdicating that function, by saying, "I don't know which is the best use," I submit he completely departs from providing us with the necessary basis for the expression of his views.

MR. ENNIS: He intends to express both views, your Honor.

THE COURT: Mr. Ennis, I am inclined to think that objection may be well taken.

You are valuing the land. You are valuing the land and land rights, so what difference does it make whether somebody might decide, if they bought it, that they would put a high or a low dam on it. I suppose the fellow who bought it, if you could find such a fellow, would be able to decide that himself after he bought the property.

MR. ENNIS: Well, let's make it this way, your Honor:

By MR. ENNIS:

Q. I will give it to you this way, Mr. Vaughan, what value did you arrive at, in considering the highest and best use?

A. In my opinion the highest and best use was for the high dam, and I have an opinion for the highest and best basis.

Q. Would you express that opinion?

Mr. HELSELL: We have a continuing objection to this line of questioning as I understand it.

The COURT: Yes.

The WITNESS: In my opinion, the fair market value of the entire property before the taking, is \$8,702,200.

The fair market value of the property remaining after the taking is \$2,200, so the value of the property taken, is \$8,700,000.

By Mr. ENNIS:

Q. Mr. Vaughan, will you now explain to the Court the basis for your conclusions?

A. Well, I have given in general terms of the type of studies that I made, and I won't repeat that, the general economic investigation which I think is self-evident; the two somewhat detailed statistical studies that I made, using the Federal Power Commission report as a basis; I took the four dams for hydroelectric installations which are on the Pend Oreille River and the Clark Fork, above the subject property, mainly the Box Canyon, Albeni Falls, Cabinet Gorge, and Noxon Rapids Installations.

From the data available in the FPC bulletin, I computed the investment in each of these projects as a function of the net generation, designed net generation.

From this summary and comparison, I found the average investment in land, upriver, as a function of that generation, both in land and in total assets necessary to produce the given amount of electricity.

Using the estimate prepared by Harza, and by Beck on the total investment required in assets other than land, I made a comparison which permitted me to draw a comparative value estimate of the land and land rights of the Z Canyon site, assuming the project were completed at the estimated cost, and were in operation, and was producing power at the annual rate projected.

Obviously, that could not be used directly as a measure of value of the land in the present condition, anybody buying it in its present condition would be buying it for the purpose of creating this value. Obviously, he would not pay that amount for it.

I computed the relationship, again putting everything on a kilowatt hour basis, and the relationship between the cost of kilowatt hour of the other dams, for things other than land and land rights, as compared to the projected costs per kilowatt hour of the construction components of the Z Canyon site.

Applying this ratio, of course, to the land costs of upstream projects, I arrived at an estimated ratio of land values to the other costs.

It would take at least four years from the time the purchaser acquired this, to go through the procedure of getting permits and drawing plans and getting it built.

It may take considerably longer than four years, so I have applied a discount factor to reduce that value from the indicated value subsequent to completion, to get an indication of the justified value of the rights in their present condition.

My estimate of \$8,700,000 is based on that consideration.

However, there is another factor which must be considered, and that is that these rights, owned by the PUD do not constitute the entire rights necessary. There has been a question — well, the prospective purchaser would recognize the fact that it would be necessary to acquire the overflow rights on some land, some mining claims, and there is a possibility as shown on the map, of some other small areas of property being acquired.

So, I have made a judgment allowance of \$100,000 for the possible cost of acquiring these additional rights, and I have reduced my estimate of value from \$8,700,000 to \$8,600,000.

The value of the small parcel of upland lands remaining before and after would be unchanged. I merely added that before and after to express an opinion as to the overall valuation.

Q. Now, Mr. Vaughan, you mentioned this matter of economic justification. What do you mean by that?

A. Well, there are two checks that I have made on this initial computation, sir.

The first check, and I mentioned the name-plate data, are tabulated 10 projects which have been built

in the general geographic area in the period subsequent to 1951, all of them being jobs of some considerable magnitude, ranging from the name-plate capacity minimum of 95 megawatts to a maximum of 1,125 maximum megawatts, and I have made a comparison of these projects on two basis, first on the investment of land originally, original costs, and the investment in the other assets at the original costs as a function of cost per name-plate kilowatt capacity, and I have also made a comparison trending the costs up, construction costs up.

I have also made a comparison trending the costs up, construction costs up, from the date of construction to the current date to get an estimate of what the over-all investment would be, assuming that they were built under today's conditions.

After analyzing these, individually and collectively, I find that if the prospective purchaser acquired the Z Canyon site at my appraised value, the total investment would still be substantially less than that of any other project considered.

Mr. HELSELL: We will move to strike that, your Honor, on the exact same grounds as we moved to strike a similar comparison by Mr. Stenson, as to costs of other sites as justifying his appraisal of this site.

We move to strike the phrase as to what the witness found from this comparison and everything that came afterward.

Mr. ENNIS: This witness is an expert witness who has expressed an opinion of value.

The COURT: May we have it read back?

(Latter portion of answer read)

Mr. ENNIS: As I stated, the witness has given the basis of his opinion as to value. The authorities hold, in such cases, that expert opinions may be given by qualified witnesses and that they should be permitted to explain their reasoning by which they arrive at their opinion.

The COURT: All right, let me ask Mr. Helsell what the ground of his motion to strike is?

Mr. HELSELL: The ground is this, your Honor: The witness is, in essence, telling us — and I am sure he will concede this — that here is what a purchaser could pay for lands to build a dam at the Z Canyon site. First, he says, “I base my opinion on what others have paid, and I go from that to say that a purchaser could safely pay X dollars at this site because others have paid Y dollars at other sites.”

Now, we say this is a completely inappropriate approach to fair market value at a particular site, and if I may use an analogy, if we were appraising a home here and we had some F.H.A. statistics as to what people in certain income groups pay for their houses, would that be admissible as evidence of the value of a particular house under condemnation? No. And I submit the analogy is perfect, your Honor.

This witness just says: “Here is what others have paid. Based on that, I find that a purchaser here

could pay this and not get hurt financially.” Basically, that is what he says. And I submit that that is an entirely improper approach to appraisal and one which counsel can find no support for in the cases.

It is pure speculation, and on that basis, we certainly object to it.

Mr. ENNIS: Counsel’s reference is to a house and not to land suitable for production of power. My recollection is the witness has testified that he is testifying now as to the matters that a buyer, in his opinion, would take into consideration in arriving at the value that he would pay, or that he could pay, and I think that is —

The COURT: What right has he got to testify as to what he could pay? Why is that material in this case, counsel?

Mr. ENNIS: What he would pay.

The COURT: No, we are talking about fair market value on the open market for cash between a buyer and seller, neither under compulsion, and we are talking about raw land, really raw land, and here he builds a power plant and says the ratio is such and such.

I am concerned about the validity of this testimony.

Mr. ENNIS: I might ask the witness this question

Q. In your opinion, Mr. Vaughan, would this matter that you have just discussed be a factor that would be considered by a buyer and seller in arriving at fair market value for the property as it now exists?

A. Yes, I think it would be necessary, for the reason that you cannot apply, in my opinion, the conventional appraisal procedures, because there is no measure, no comparable measure, of what people have in the past paid for equivalent rights.

These rights are unique, in my experience. They are not just raw land; they include the engineering plans, the years of planning for building the site. These are wrapped up in a bundle and they are unique and, in my appraisal experience, you cannot go to the market.

The comparison that counsel has used would be invalid, because it is certainly no problem for the appraiser to go to the market and find out what houses are selling for.

The COURT: May I ask, Mr. Ennis, if this witness' views also appraise the engineering reports and plans that were made for developing this property? I don't think those are being taken.

Mr. ENNIS: I don't believe so.

The COURT: That is what he said.

Mr. ENNIS: My understanding of his testimony in that regard was that he considered that in arriving at the highest and best use.

The COURT: I don't believe he said that. Would you mind reading the answer?

(Answer read)

Mr. HELSELL: I think, in any case, he has used in his bundle of rights some engineering plans.

The COURT: I will grant the motion to strike that

portion of his answer that was moved against previously.

Mr. ENNIS: And how far back did that go?

The COURT: When he said, after analyzing all the other projects, he finds that his appraisal is substantially less than land and land rights in other projects. I think that is substantially what the statement was.

Q. (By Mr. Ennis) Mr. Vaughan, in reaching your appraisal, did you consider as a part of the property being taken any engineering plans or anything like that?

Answer. No, sir, I did not. Only the knowledge which was a matter of common knowledge which had been disseminated and gained as a result of these engineering studies which had been made.

All of this would lead, would aid, the purchaser in arriving at his conclusion that this is the highest and best use, was for a dam site.

Q. What factors did you take into consideration in determining the economic feasibility of this project?

A. Well, I have said before, the only reason that anybody, public agency or private agency, would build a generating station is to produce power in the form of electrical energy for the use of the public. And one of the studies I made was, assuming that this project were built at the estimated value, assuming that the land and land rights were acquired at my appraised value, what would be the cost of generation and would the cost producing the net kilowatt-hour energy be at

a level which would be economically feasible in relation to the costs of other plants in the general area.

Q. And what, in your opinion, would purchasers of this type of property that is being condemned, what study would they make in that regard?

A. I certainly think that anybody interested in making a major investment to produce a product would want to know whether the product would sell at a higher or lower cost than the competition, so in this instance, where the public would benefit through getting power at a lower cost than they had been able to get it from other plants —

Mr. HELSELL: Just a moment.

We will move to strike that last phrase as an expression of opinion by this witness as to the costs of power and the benefits to the public from getting power from this plant. I know of no basis —

The COURT: I thought he said they would investigate.

Mr. HELSELL: If it was clearly, simply that they they would investigate it, then I would withdraw my objection.

Mr. ENNIS: That is what I asked him, if they would investigate it.

Q. In making such an investigation, did you make such an investigation?

A. Yes, sir.

Q. And what did you find as a result of that investigation?

Mr. HELSELL: We will object if the question is designed to ask for his opinion as to the economic feas-

ibility of this project on the grounds stated a moment ago.

We don't believe that this witness, your Honor, by his very description of the matters he considered and by his description of his qualifications, may express his opinion here as to the economic feasibility of the project. Included in his figures, for example, is what he calls a judgment figure for the costs of land rights that a person would have to acquire that aren't already owned. The record supplies no support and this witness has supplied no support for that kind of a figure.

Beyond that, we are getting again into this question of market for power, could the power from this plant be sold in this market, obviously an issue of economic feasibility.

And we submit again, No. 1, this witness is not qualified to express an opinion on that, and, No. 2, that is an area which we believe is an impermissible excursion in this case in valuing the value of raw land.

Mr. ENNIS: Cost estimates have been permitted in cases, expert witnesses are permitted to make estimates of economic feasibility. It is one of the factors that they are permitted to take into consideration in reaching fair market value, and he has testified that he did, that he considered that, and now we desire to have him testify as to what his investigation revealed in that category.

Expert witnesses are always permitted to give the

bases for their opinion upon which it is based. That is what he is attempting to do.

The COURT: I will let him answer.

A. I found, as a result of this study and the cost estimates made available to me, that the cost of power at this station, again assuming these factors, that it could be built at the estimated cost and if the lands were purchased at my appraised value, then the power could be produced at a cost substantially less than that of other plants in the area.

Mr. HELSELL: To preserve our record, may we move to strike that answer on all the grounds stated in the objection, your Honor?

The COURT: Yes. Motion denied.

* * *

Q. Mr. Vaughan, have you, in your experience, been called upon at any time to appraise land and land rights in connection with a hydroelectric project?

A. Yes, I have.

Q. When was that?

A. That was last year, on two projects that I mentioned, one of them was the Virginia Electric Power System on the Roanoke River, and another in Gaston, North Carolina and there I expressed an opinion as to the fair market value of land and land rights necessary.

In order to be clear, that was land and land rights of an existing hydro installation.

Mr. ENNIS: You may cross-examine.

CROSS EXAMINATION

By Mr. HELSELL:

* * *

Q. Well, now, when you talk about a right to build a dam, I am curious about that. What right did you assume that the Public Utility District of Pend Oreille County had to build a dam at Z Canyon in arriving at your \$8,000,000 figure?

A. They owned the land upon which the dam would be built, the adjacent — they had the flow rights, the overflow rights, sufficient to cover the reservoir, to private lands and adjoining the federal land which would permit the rest of it, there was a need for the dam in that location.

There is no inherent right for anybody to build a dam; you have to get permits from the federal agencies; but I think it is reasonable to assume that if anyone owned these rights under these circumstances, when there was a need for additional power, that the regulatory bodies would not be capricious or would not refuse to grant the permit to a bona fide owner who was capable of utilizing the property.

Q. As I understand your testimony, the complete bundle of rights is not now, in your judgment, owned by the PUD?

A. With some very small exceptions, I think it is.

Q. And those exceptions are privately-owned real estate owned by private owners or the State of Washington?

A. Yes.

Q. Within the area of the proposed Z Canyon reservoir above the shore lands and below 1990; is that correct?

A. Yes.

Q. And those rights are rights which the PUD must acquire and can acquire, in your judgment, for \$100,000 in order to complete the necessary land acquisitions to build a project at Z Canyon?

A. That is correct.

Q. And as I understand the theory of appraisal, those rights are rights which a prospective purchaser from the PUD of its left abutment uplands and of its shore lands and its easements also must consider acquiring in order to put together the complete package and build a dam at Z Canyon?

A. That is correct.

* * *

Q. Do you have, Mr. Vaughan, some sort of definition of what constitutes a bundle of rights which you believe it is appropriate to apply power site values to, as distinguished from raw land value?

A. Well, I think in my direct testimony, in arriving at the estimate of the highest and best use, I said if this bundle of rights, consisting of the fee ownership, the overflow rights, the perpetual easements, and other factors, taken as a group, constitute a bundle of rights which, with the exception of some small pieces of property remaining in private ownership, constitute all of the rights necessary to construct a dam at this site.

Q. So that the bundle, if I put it this way, presently owned by the PUD does not constitute all of the rights necessary?

A. With the exception of those already discussed.

Q. Right, those already discussed are missing from the bundle at the moment, aren't they?

A. Yes, and I have assigned a judgment valuation on those based on their highest and best use as mining claims and highest and best use for other purposes, and not for the highest and best use for a dam site. In my opinion, none of those, considered individually, separately, could be considered as constituting a bundle of rights necessary to build a dam site.

If the only thing that the PUD owned was the Z Canyon site, the only right they had was to that particular little piece of the river, I would not say that that had this valuation.

Q. So it is the shore lands which the PUD owns which you believe are essential to constitute the necessary bundle?

A. The entire bundle.

Q. Do you know how those shore lands, or the right to overflow them, are acquired in this state by one wishing to put up a dam?

A. Well, since they already have them, the PUD, the present owner already has them, I haven't been concerned about how they got them, I am appraising how they stand.

Q. I believe the reason you assigned that a person with fee ownership upstream from Z Canyon couldn't

consider that he had the necessary bundle of rights was because he doesn't have the right to overflow shore lands?

A. That is correct.

Q. Are you aware, sir, that in this state he who seeks to erect a hydroelectric dam makes application to the state for a reservoir permit, and with that reservoir permit comes the right from the state to overflow state-owned lands?

A. I believe that is correct.

Q. So it wouldn't be too much of a trick for a man who owned the fee title to land beside another dam site along that river, if he made an appropriate application to the state, to acquire exactly the same rights as the PUD has in that same reach of the river, would it?

Mr. ENNIS: I will object to this as being argumentative with the witness as to what the law of the State of Washington is.

Mr. HELSELL: I think he has gone past that, he understand this to be the law, and I think is then appropriate cross-examination.

The COURT: I wouldn't think so, counsel. What you are implying here is, if the PUD has the right to overflow the shore lands, that somebody else could get a permit and drowned out the PUD shore lands without paying for them.

Mr. HELSELL: No —

The COURT: That is what you are saying here.

Mr. HELSELL: Not without paying for them.

The COURT: That is what your question says.

Mr. ENNIS: The actual fact of the matter is that the exhibits that are in this record and have been admitted in this record show that the order that the City of Seattle got to overflow the shore lands is specifically made subject to the outstanding right originally granted to Cooper. Now, that is the state of this record as shown by the exhibits. Now he wants this witness to assume something that is contrary to the evidence here.

Mr. HELSELL: No, I think maybe I have been misunderstood.

Counsel is exactly correct. The right to overflow shore lands now given to the City of Seattle and shown by the record is subject to the right to overflow those same shore lands which the PUD holds, but the contention that it is somehow a mutually-exclusive right, your Honor, is not borne out by the record, and I submit that on that basis, this is perfectly appropriate cross-examination. There is nothing exclusive about the right to run water over a piece of ground.

The COURT: In other words, what you are saying is that you can give one person the right to flood shore lands or 10 people the right to flood the same shore lands?

Mr. HELSELL: Exactly.

The COURT: It doesn't detract or doesn't add to anybody's rights; is that what you are saying?

Mr. HELSELL: That is just exactly what I am saying, your Honor. A piece of real estate is owned by me and

I give you the right to flood it and I give Mr. Ennis the right to flood it. Now, is there anything inconsistent between your having the right to flood it and Mr. Ennis having the right to flood it? You can block the river one day and Mr. Ennis can block it the next.

I am serious about this, I am not being facetious. I really sincerely believe that this is a legitimate question.

There is no reason apparent why another dam site proprietor, who now owns lands in fee simple at Slate Creek, couldn't make application for a reservoir permit, couldn't get the same exact right that the City of Seattle has to overflow shore lands, subject to the right of the PUD to overflow those shore lands.

Certainly in a proceeding like this one, it would ultimately have to value that PUD right, but it doesn't make it impossible of acquisition.

Now, I hate to lay out all my cards on the table on this cross-examination, but I have to because your Honor has reservations about the propriety of the questions. I realize —

The COURT: I think I should sustain the objection.

Q. (By Mr. Helsell) What did you assume, Mr. Vaughan, as to ownership of the river bottom in connection with your valuation of the bundle of rights owned by the PUD?

A. I wasn't concerned about the ownership of the river bottom, because whoever had the right to overflow the shore lands would certainly have the right to

overflow the river bottom, so you gain all the benefits of the ownership regardless of who actually owned it.

Q. That assumes that the water that was going to overflow the shore lands was the same river water which already overflows the river bottom, does it not?

A. Well, I think it is a logical assumption, that if the shore lands are covered with water, the middle of the river is going to be covered, too.

Q. So you made no assumption as to who owned the bed of the river in arriving at your valuation?

A. I did not.

Q. And as I understand it, the key to your conclusions as to what constitutes the necessary bundle of rights for utilization of the valuation method you adopted is who owns the shore lands or who has the present right to overflow?

A. Who has the site upon which, presumably, a permit would be granted because of the feasibility of building at that site, and at the same time the right to overflow the necessary shore lands to create the reservoir, all of which is a part of the bundle of rights. They can't be treated separately.

* * *

Q. You have handed me a green publication captioned "Hydro-Electric Plant Annual Construction Costs and Production Expenses, 5th Annual Supplement, 1961." Is this the document which you testified you used, which includes these statistics as to power, plant land acquisition costs of other plants in the U. S.?

A. Yes.

Q. Did you use any other FPC bulletins in arriving at your conclusions as to value?

A. No, that is all.

Q. As to this document, as I understand it, you took the number of plants at arriving at a composite figure which utilized the per cent of overall cost, represented by acquisition of land and land rights?

A. Yes.

Q. You reduced that to cost per kilowatt hour of energy produced by a plant over a period of a year?

A. Yes.

Q. Then you took that per kilowatt hour figure and applied it to the figure which the Harza Engineering Co. showed the High Z could produce, and using that same percentage figure you arrived at your conclusion as to the value of the land?

A. No.

Q. Would you explain that last, please?

A. This is related to the investment, the original cost of plant, not to the cost of generation.

Q. It was original cost of plant per kilowatt hour?

A. Generation.

Q. Of generation?

A. Yes.

Q. So that you took the kilowatt hour of generation which Harza indicated could be produced by a High Z, and using the factor which you had previously arrived at for the other plants, simply applied that factor in arriving at a land value, for the land under the High Z?

A. To the entire bundle of land rights.

Q. Can you tell me what factor that was? Basically what plants you used, or whether it was for all plants shown on this group, or whether it was just a selected few.

A. No, I gave you the names of those. I think I can give them to you from memory. It was Albeni Falls, Cabinet Gorge, Box Canyon, Noxon Rapids, that was the particular analysis.

Q. Okay, then you had another analysis which you say you used as a check where you took nameplate ratings?

A. That is correct.

Q. What plants did you use in your production of a factory using nameplate ratings?

A. Brownlee.

Q. Brownlee.

A. Cabinet Gorge.

Q. Okay.

A. Chief Joseph.

Q. Okay.

A. The Dalles.

Q. Okay.

A. Davis.

Q. Okay.

A. Hungry Horse.

Q. Okay.

A. McNary Lock.

Q. Okay.

A. Noxon Rapids.

Q. Okay.

A. Swift.

Q. Okay.

A. And Upper Baker

Q. And are the figures with reference to the land acquisition costs for those dams also figures which you took out of this green pamphlet?

A. Yes, sir.

Q. Okay, did you use any other F.P.C. bulletins in arriving at your conclusions as to the value of the lands and land rights associated with those?

A. No, sir, I did not.

* * *

Q. Mr. Vaughan, on Thursday, you told us that you had made two separate statistical studies, utilizing, as I understand it, in one study, a group of some four plants on the Clark Fork River, and another being a group of some 10 plants at various locations in the western part of the United States, on which you based your opinion as to the value of the PUD land.

Do you have the work sheets that you used which show the detailed statistical study that you made?

A. Yes, I do.

Q. Could I see those, please?

A. Yes (producing papers).

Mr. HELSELL: May I approach the witness, your Honor.

The COURT: Yes.

(Papers handed to counsel)

The WITNESS: These are the four upstream on the Pend Oreille River, and the Z Canyon site, and these are the ten other projects (indicating).

Q. Do you have extra copies of these, so that you can use them as I use them, or is this your only copy?

A. That is all I have.

Q. Well, let me ask you some general questions, if I may, for a moment, then I will return these to you.

Except for the work papers that you have just handed to me, do you have any other work papers which are used in conjunction with any other studies which you made in support of your opinion as to value.

A. I have so much general background information that I used, and that aided me in my overall conclusions, in connection with my various analyses.

Q. Did you make any other detailed analysis of the kind shown on the work sheet that you just handed to me?

A. Not relating specifically to the figures which I finally used, but I had a number of calculations in connection with which I made various studies, such as comparative costs and data of that nature on the Wanapum Refunding bonds, these Swift Plant, the Wells-Hydro, and many other figures such as that, which I reviewed, but I didn't use any of them specifically in the appraisal, no.

Q. The two that you have just handed me constitute the ones which were used in your appraisal?

A. Yes.

Q. Notwithstanding the fact that you tried some other approaches and rejected them, the basis of your opinion as to value in this case are the two detailed studies which you just gave me?

A. Well, as I testified in my direct examination, my primary basis of comparison was the upstream projects on a kilowatt hour basis capacity, annual capacity, and the second study was in the nature of a verification, on the assumption that if a purchaser bought the land, the estimated value, the estimated amount of money to complete a project, what would be the comparison from an investment standpoint, on the basis of nameplate data, as to the other ten projects in the area, on the basis of original cost and reproduction cost new.

I think you will find, by referring to my working papers, that I did not extract from that valuation. I inserted in those valuations the — in those comparisons, the valuations made on the first approach, and I have another worksheet here showing the comparisons under the two different basis as to the production costs, as a further and final check.

Q. Could I see that work sheet?

A. (Producing papers) This is a summary of numerous other computations that have been made and figures extracted from them.

Q. Except for the three separate studies that you have now given me, the worksheets for the four plant study and the ten plant study, on the basis of nameplate rating and production costs, which you have last

given me, those are the three detailed studies that you made in support of your opinion as to value.

A. That is a summary of the studies, yes.

Q. And the background information which you used, in arriving at the numbers shown by these various detailed studies, among other things, included this FPC Bulletin No. S157, which you gave me on Thursday?

A. Yes, and there is another thing which I did not have, so the record will be clear, on the study of these 10 projects, in the work sheets, I have that designated in the form of two columns, the first column shows the cost, the second column shows the cost per kilowatt hour, nameplate capacity, and the next is the reproduction cost new, and in arriving at the reproduction cost new, we took the costs other than — we broke it down into reservoirs, dams, and waterways; equipment, roads, railroads, and bridges, and we applied a trend factor to that, known as the Handy Whitman Index, to arrive at an estimate reproduction cost new, which is the second column of figures tabulated on those work sheets.

So I used, in addition to the FPC, I used the Handy-Whitman index of cost trend.

Q. Which you used to bring forward from the time of plant construction the costs of reproduction of all of the parts of the plant except for land and land rights?

A. That is correct.

Q. And in then making your comparisons, you used these trended costs, as I understand it, in arriving first at a total plant cost as of today?

A. Yes.

Q. And then you used that figure as you went forward and made the comparisons that you used to arrive at your valuation for the PUD's property?

A. That is correct.

Q. Now, the figures that you got, staying for the moment with the four upstream plants, for land and land rights came out of this bulletin that you handed me Thursday, which is FPC Document No. S-157?

A. That is correct.

Q. Do you have an extra copy of this, or should I return yours to you?

A. I have copies of the pertinent information out of it.

Q. All right, what can you tell us about where the information which you took out of this bulletin comes from?

A. The information that is required to be filed with the Federal Power Commission by permit holders.

Q. Well, do you understand that the Federal Power Commission requires reports from licensees and that in those reports are contained the information which the FPC then puts in printed form in this booklet?

A. That is my understanding, yes.

Q. You have used, in your four upstream plants, for purposes of your first study two federal plants?

A. That is correct.

Q. Albani Falls and Hungry Horse?

A. Yes, sir.

Q. Is it your understanding that the proprietor of the federal plants, that is, the Corps of Engineers, in the case of Albani Falls, and the Bureau of Reclamation, in the case of Hungry Horse, has to furnish these forms to the Federal Power Commission which are required of licensees who are private proprietors?

A. I do not know what the requirements are; I know that the information is supplied, and it represents an allocation of the total cost of the project to the power portion of it.

Q. Well, now, would you give me a little more detail on that? Is it your understanding that the Corps of Engineers in its office makes some allocation of the different construction costs and land costs than are involved in its project to power and then furnishes that to the FPC?

A. I do not know who or which of the public agencies makes the allocation. I know that the figures reported in the FPC bulletin represent an allocation of the costs where they are for multiple use purposes. Some may be for flood control or for some other factor. I don't work for the federal government and I don't know enough about it to know who makes those allocations. I accepted the allocations for comparison purposes bases as shown in the FPC reports.

Q. For our purposes, some government employee just looks at the over-all cost figures of one of these federal projects, makes an allocation in terms of percentages of use involved, so to speak, that is, power or storage, and then there is printed in this FPC

bulletin that allocated portion of the total cost which, in the judgment of some government employee, represents the power production phases of the plant?

A. I think you are making a considerably broader assumption than I have. I am assuming that these allocations are made in good faith by a competent engineer and accepted by responsible government agencies. I am not taking the assumption it was made on an offhand assumption by some uninformed clerk, sir.

Q. You don't know, sir, who makes the assumptions, do you?

A. No, I do not.

Q. Your assumption —

A. But I haven't assumed it is an uninformed clerk, no.

Q. Well, I don't believe I took the uninformed clerk; I said some government employee, I think.

In any event, an allocation is made somewhere in government, if we have a project that is both storage and electric-generating facilities, as to what part of the cost is reflected by that part of the plant that produces electricity and what part of the over-all cost is reflected by that part of a plant that was constructed to store water, and it is those allocated costs which are printed up then in this FPC bulletin?

A. Yes.

Q. Do you know whether somebody in the FPC further studies the figures submitted, let's say, by the Corps of Engineers and arrives at any conclusion as

to whether the Corps of Engineers' allocations for these purposes are correct ones?

A. I would assume that if the FPC uses these figures and reports them in this bulletin, that there must be some reasonable assumption of the validity of them. I wouldn't make the assumption that they are unreasonable or capricious merely because I don't know who they are made by.

Q. I didn't ask you if they were unreasonable or capricious, I just asked if the FPC further goes over the figures submitted by the Corps of Engineers, for example, and makes a further allocation based on its experience as to what part of the costs should be charged to power and what part should be charged to storage of water?

A. I have no personal knowledge of the internal operations of the FPC. I can't answer the question.

Q. Is it fair to say that you don't know how exactly the allocation between the power facility of a government project and the water storage facility is made?

A. It is entirely correct.

Q. And you really don't know whether it is an engineer that makes it or some accounting clerk, do you, sir?

A. I have no idea.

Q. But it, nevertheless, was these figures, which are broken down into lands and land rights, reservoirs, dams, waterways, and so forth, in this bulletin that you use in arriving at your opinion as to the value of the lands owned by the PUD at Z Canyon?

A. That is one of the factors I considered, yes.

Q. Is it your understanding that in this bulletin, staying for the moment with these four upstream projects where the FPC, using information reported by the proprietor of some federal project, put the amount under land and land rights, that the dollars shown in this bulletin for a particular project are placed there in accordance with the FPC Uniform System of Accounts?

A. Yes.

Q. So that anything which is authorized by the regulations of the FPC to be placed under Account 330, which is land and land rights, is going to appear in these figures reported for these various projects?

A. That is correct.

Q. Do you know what the FPC provides in its standard system of accounts as to what kinds of items are to be included by a project proprietor in land and land rights?

A. I couldn't quote the exact, but in general terms, yes. It is the total cost of acquisition, including relocation of highways, relocation of roads, and other factors going into the land and land rights cost.

Q. Well, would you just tell me, as best you understand it, what the FPC requires be included in this land and land rights account that you have used?

A. The actual price paid for the land, the survey costs, the clearing cost, the relocation costs.

Q. Do you know of any other items which are required by FPC regulations to be put in that account

besides the ones you have just named?

A. Well, there are many sub-categories under that. It is a pretty broad definition.

Q. Well, starting with clearing cost for the moment, do you regard clearing cost of lands used on some of these upstream projects as an appropriate item to be included in land and land rights for purposes of valuing the land and land rights owned by the PUD?

A. Yes, and it is one of the reasons I made the discount factor which I mentioned in direct testimony; that these comparative studies I have made on upstream projects show the cost of the land and land rights in their present condition, which, obviously, could not be used as a direct measure of value of the subject property in its present condition. That is the reason I have made these additional allowances.

Q. Is there an allowance in your \$100,000 judgment figure for clearing costs in the lands acquired by this purchaser?

A. Some of the clearing costs are included in the Harza estimates, is my understanding.

Mr. HELSELL: Could the witness be shown Exhibit 130-A, I believe it is?

(Exhibit handed to witness)

Q. Did you study that Harza estimate in making the calculations you have made in this case, Mr. Vaughan?

A. I studied the original preliminary estimates. I did not see the final form, because it was just completed after I came into Spokane.

Q. Do you know where in Exhibit 130-A is contained clearing costs?

A. I think in the reservoir, dam, and waterway, there was some of the work in that area.

Q. I think I can help you. Item No. .11, which is in the schedule of costs shown in that document — do you find it?

A. "Reservoir Clearing," yes, in Figure 11, shown as Item No. .11, "Reservoir Clearing," in the amount of \$40,000.

Is that the figure you are referring to?

Q. Right. Well, now, clearing costs are in the cost of construction of the plant, which, as I understand it, is a different figure from land and land rights.

Are you telling me that you, nevertheless, included clearing costs in your \$100,000 judgment figure?

A. No, sir, I did not.

Q. So that no clearing costs are in your \$100,000 judgment figure?

A. Not in the \$100,000; no, sir.

Q. But clearing costs are in the land and land rights costs which you used from these upstream projects to calculate the value of land and land rights owned by the PUD?

A. As my work sheets will show on the comparison I made, the cost of land and land rights is roughly one cent per kilowatt-hour, 1.11, if I remember correctly, per kilowatt-hour. In valuing these, I have reduced that to 25 mills, or one-fourth of that amount, because, as I have stated, the direct comparison taken

from the FPC reports result in a justified or comparative evaluation, assuming all clearing had been done, or relocation had been done, the project had been erected at the estimated cost, then the comparative cost would be in the neighborhood of \$34,000,000 which I have reduced to my figure of \$8,700,000 to make allowance for these factors you have just been asking me about.

Q. Well, we will come, of course, to your exact calculation during this cross-examination, but I am trying to find out what you understand to have been included in these land and land rights figures that you used as a comparison to arrive at land and land rights value for the PUD property?

A. Well, I am certain that any relocation work was included in it as a major element of cost, which is one of the factors that influences my judgment as to the value of this property, because the relocation costs would be quite low, if any, in this project.

Q. Well, now, let's assume for purposes of discussion that in one of these upstream projects relocation costs constituted the major part of the land and land rights account; that is, relocating property owned by others; would it, nevertheless, be appropriate, in your judgment, to use that land and land rights account in valuing the PUD's Z Canyon property?

A. Certainly, I think the purchaser who had an option of buying two properties who was making a comparison would pay more for a property that did not require extensive relocation than he would pay

for one that did require extensive relocation. I think that increases the desirability of the Z Canyon site, because in comparison to Noxon, for instance, there is much less relocation required.

Q. So what you are saying is he will pay as much more for the Z Canyon site as it would have cost to relocate the kinds of properties that were relocated on these upstream projects?

A. I don't think you would use it as a mathematical comparison; I think it is one of the factors he would certainly consider.

Q. Did you notice that in the land and land rights account, in the figures, which, therefore, are involved in these land and land rights, the dollar figures in this FPC bulletin, did you notice that there are condemnation procedures, including court and counsel fees, and costs?

A. I suppose there would be, there normally is.

Q. Do you feel it is appropriate to use, as a measure of land value, what some other land value was paid in the way of court costs and attorney's fees in condemnation proceedings in acquiring those other properties?

A. Apparently I have not yet made it clear that my basis of comparison was not on the basis of an acre land value, what they paid for an acre of land, or a unit of land clearing, or relocation costs, this comparison is the ultimate reason for making an investment, the criterion being the cost of the production of a unit of electrical energy, and the sum total of the

cost, necessary to do it, plus the economic feasibility of the project.

The analysis I have made is the total cost of the project compared to the, for a unit of an identical plant, and in the upstream projects, I have taken the total investment in everything other than the construction components. What I am appraising here is the value of this dam site, which consists of all aspects other than the right to build this project, to justify the investment, and the measure of value would be what would be the total investment per unit of output.

The cheaper that any investor can build — if the City has two sites, a choice, anybody would pay more to get a land site where his construction costs would be less than he would to get equivalent land site where his construction costs would be higher, so that this comparison I have made is what, at the upstream projects he would have to invest in order to create an economic unit, measured in terms of kilowatt hours.

Q. You used those amounts, the amounts paid by the upstream proprietor, to create this economic unit, to value these raw lands that we are considering here, as owned by the PUD.

A. As a starting point, yes.

* * *

Q. Now, Mr. Vaughan, I would like to get to the conclusions which you made, which ultimately produced this appraisal of \$8,700,000 as the valuation, and before I continue on this, perhaps I should say this to the Court.

We are in the position here of having objected to the method that this witness used in arriving at his figure, we objected to this figure on the theory that the method was not an appropriate one to be used for several legal reasons which were stated.

I do not want to waive that objection by myself, putting into the record on cross examination much of the information which he used, because I can see that it is entirely possible that in some appellate proceeding, we will be charged that we produced the very evidence which we say should not have been produced.

I have in mind the Adams case where that very thing happened to counsel. He objected to the initial opinion, and then on cross-examination, got into the market value analysis made by the appraiser, and then on appeal, when he complained about the fact that the market value was considered by the man, read in the opinion that he, himself, had listed the evidence.

So I would ask, your Honor, that our entire cross-examination of Mr. Vaughan be subject to our right to move to strike the opinion which he has heretofore given, notwithstanding the fact that we may ourselves elicit some bases on the cross-examination which we will urge were inadmissible and an improper basis.

I hope your Honor sees the dilemma that the cross-examination puts us in for these reasons. For example, if I can use an illustration —

The COURT: Let us hear from Mr. Ennis.

Mr. ENNIS: It seems to me that that is a problem counsel must face. He has proceeded to date to make

no motion to strike this witness' testimony.

The COURT: Counsel, he made an objection at the time the testimony was given, and all the testimony went in over his continuing objection, so I don't think he has waived anything up to this date by not making a motion to strike.

Mr. ENNIS: If counsel wants to proceed with his cross-examination of the witness in any way that he sees fit, of course, that is his right. I think his request to proceed with cross-examination under certain conditions that he won't be bound by anything he might open up or that he might elicit or bring out by his cross-examination is new to me.

The COURT: Well, counsel, if I erred in letting this man testify, I don't think you can profit by it if counsel cross-examined him on a subject that was improperly admitted.

Mr. ENNIS: I wasn't thinking so much of profiting by it as I am the fact that if he opens up subjects and elicits testimony, certainly it can be considered, I assume, by the Court on any future rulings it might make.

not have it considered. I am not quite sure just what

I don't know just what he wants to elicit and then his objection is or what he wants to do.

Mr. HELSELL: Well, I will be glad —

The COURT: I think your bible is the Adams ease, and that shows what it is.

Mr. HELSELL: I can give counsel a specific illustration of the kind of thing that we have in mind, your

Honor, if that would be of any assistance, but it is quite clear, I think, what our problem is.

We don't want to elicit appraisal theories and hearsay information which we say is inadmissible and should not be considered by the man and then be precluded from arguing that he should not have been permitted to express his opinion based on these kinds of hearsay figures on the ground that we ourselves elicited them. That is the basic problem that we have in one respect.

No. 2, we have some comparisons he has made with other projects. We have urged before that we think that that method is an improper method of arriving at an opinion as to value as to these raw lands. If we go ahead and elicit the figures and all of the facts with reference to the other projects, it might well be contended that by ourselves putting in the record these figures, we have waived our right to the objection that the method used was improper.

That is the kind of problem that confronts us, and that is why we ask that our cross-examination be undertaken with the reservation of a right to move to strike the witness' opinions earlier given based on the kinds of information which may be elicited on cross-examination which show the bases for his opinion and which we believe, when the cross-examination is completed, will demonstrate to the Court that the witness did not use a proper basis for arriving at those opinions.

I think that is as close as I can come to describing what troubles me as I launch into this cross-examination.

Mr. ENNIS: It might be true strictly applicable to what was developed as far as the witness said on direct examination, but what situation with reference to new things that he might develop as a result of cross-examination —

The COURT: I think anything new has to be pertinent to the direct, but the testimony of this witness has covered such a wide range, that I can't see that anything he might bring up would not be connected with the direct.

Mr. Helsell, let us now take our recess and you might give counsel the example to which you make reference, and then we might arrive at a different procedure in connection with the matter.

I think if you intend to bring up new matter and launch into different cross-examination, it just seems to me as though you would be plowing the ground over again.

Recess for 10 minutes.

(Short recess)

Mr. HELSELL: I might say I explained to Mr. Ennis during the recess a couple of illustrations of what concerned us, your Honor. I am not sure that they operated to persuade him that we should be entitled to proceed subject to a motion to strike, but I certainly have attempted to let him know what is the trouble, that is, the

kind of things that we may develop by cross-examination.

Mr. ENNIS: Well, I suppose they can make a motion to strike whenever they want to, and if I understand the situation correctly, counsel wants to proceed with his cross-examination and at a subsequent time be in a position to say that the PUD couldn't take advantage of anything in support of this witness' opinion that might have been developed on cross-examination because he is doing so under some sort of a reservation, and I just don't think that you can proceed on cross-examination on that sort of basis.

The COURT: I don't think you need to argue this extensively, counsel. Apparently, you two gentlemen don't see eye to eye on the subject; is that right?

Mr. HELSELL: That is correct.

Mr. ENNIS: It seems to me we should proceed just on the rules of evidence and cross-examination as we have before and as they exist.

The COURT: Counsel, I think we will just be wasting time, because I think the motion to strike would be well taken if made again.

I cannot adopt the foundations upon which this witness bases his testimony and conclusions of value. I think that it is entirely incorrect and improper and not in accordance with my ruling made in March.

Now, the valuation has to be based upon fair market value, what a willing buyer would pay to a willing seller. He hasn't based his opinion on that, and so if counsel wants to make his motion to strike, I will entertain it now.

**Direct Examination of the Witness, Neville C. Courtney,
except with reference to his qualifications, and Pertinent
Portions of his Cross Examination.**

DIRECT EXAMINATION

* * *

Q. Now, coming to the present case, what has been your connection with this case?

A. My connection has been as an appraiser or a witness to fix the fair market value of the property appraised as a unit.

Q. The property appraised as a unit?

A. Yes.

Q. What lands, did you understand were to be appraised, and I call your attention to an exhibit on the board there.

A. The lands shown in green, running from just below Z Canyon over here, to Box Canyon (indicating).

I appraised that, at the right, with the right to overflow and perpetually back up the water over that shoreland, and I also considered this red distance (indicating) this reach of the river extending from below Boundary Dam up, and it laps over the other rights so to speak, up to about right here, Lime Creek and those lands are in fee simple.

Q. What do you understand those lands to be?

A. They are below the normal high water line of the Pend Oreille River.

Q. What ownership do you understand that the PUD has in those lands?

A. I assume that you—that they had the complete ownership of the land, that Pend Oreille had.

Q. That is your understanding?

A. Yes, and also that there were 81 acres in here, out of 191, which was in my appraisal.

Q. That is the part to be taken consists of 81 acres?

A. Yes.

Q. Out of a tract belonging to the PUD?

A. Yes, which is this blue part over here (indicating).

Q. What did you do in preparation, in connection with the making of this appraisal?

A. Well, the first thing I did was to visit the site to see what in my judgment of the land it had the highest and best use for, that it could be used for, and I knew what it would be when I got there, just from general knowledge, but I was very much impressed with the Canyon, and particularly I was impressed with the very narrow Canyon that would permit an arched dam to be built from the left to the right bank for relatively low cost, and in any development, for any hydro-electric purposes, could be built there very reasonably.

Q. What else if any inspection did you make of the area?

A. I found out that a subsurface investigation had been made, that Mr. Cooper had put a shaft down on the right bank, which is the East, and then he put a horizontal tunnel under the river to where he could get under there and have a good look at the rock, and that he drilled up from the top of that tunnel to see

how porous that limestone was, and all of the information that I have received and learned about, and the drawing of his that I examined, it is exceptionally good.

I don't know that I have ever seen any limestone any better than that, and I have had quite a lot of experience. The dam in New Jersey that I spoke about had very cavernous conditions which required an enormous expense in money to retain that water in the pool.

I visited the Boundary site, and I went into the turbine hall, where the excavation was going on, and I visited many different parts of that.

Q. Why did you go there?

A. I wanted to see whether the conditions there checked with what I had generally learned a little later on about that particular site, and I was amazed at the conditions that they had.

I only saw two places at the time when I was there when they had any real shoring at all. The rock was just about as perfect as any you could get.

Q. Then did you visit any other parts of the area?

A. Yes, I visited, drove down through there, went down on the Z Canyon site as far as we could get down, to where I could get a good view of it.

Q. Any other area along the river?

A. Do you mean other plants?

Q. Yes.

A. Oh, yes, I made it a point to visit Cabinet Gorge, Noxon Rapids. I was somewhat familiar with Cabinet

Gorge. I had noticed their model made in Wooster, Massachusetts before they started their project where they had the model, to go into all the hydroelectric features of that particular plant.

I had a personal interest in it because I was now able to see the site.

As far as Noxon was concerned, I was generally familiar with that. I also visited Albeni Falls the Army Corps project at Newport.

Q. How about Box Canyon?

A. I visited Box Canyon also. I visited that site, and I was interested in it, because I had read about that in the American Society of Civil Engineers publication, all about the difficulty they had there in having an arch across there, from one side of the river to the other so that they could build this dam on the arch.

Q. On a sand foundation, in other words?

A. Yes, that is right, over a sand foundation.

Q. What if any studies did you make regarding the river system?

A. Well, I made studies, and I secured the original Army Engineers report which was made—the 308 report, which was made in 1948, and I secured the review report of the original report, which was made in June, 1958.

Q. What was your reason for doing that?

A. I wanted to be familiar with the entire power and energy picture in the whole of the northwest, and I also studied the Bonneville Power Bulletins I had

occasion to study some of the PUD power Bulletins, I studied the prospectus of the Boundary project, which is the project of Seattle.

Q. What did you learn from the Army report which was of value or of interest to you?

A. The two Army reports were quite complete. Of course they are a little bit out of date now, and they are authorizing another report to be made up, just as a continuation of these two, but it gave me a good picture of the whole set up, and I might say that I had all of the Bonneville and federal major and minor publications put out by the different agencies in the area.

Q. Why did you examine all of these publications?

A. What? I didn't understand you.

Q. Why did you examine all of these publications that you talk about?

A. Well, I wanted to learn all I could about the whole power setup in this area, and I wanted to find out whether there was a tremendous demand for power, or whether the power was not so much in demand, and that is what I was looking for particularly. I did this after I visited the site, because of the potentiality of the site. It was tremendous, in my judgment.

Q. Now, you speak about "the site." What favorable factors did you find in your investigation about that site, in connection with its highest and best use?

MR. WHITE: I object to that, your Honor, unless it is pinpointed a little more than that. I assume he is talking about physical factors.

Mr. DILL: Yes.

Mr. WHITE: We have no objection, if that is what he is talking about.

By Mr. DILL:

Q. Do you understand the question?

A. Yes. The physical factors, as I mentioned before were the excellent foundation condition, the very narrow canyon impressed me greatly, the fact that you could build such a large dam and get over 250 feet of head, it was amazing.

Usually we don't see these things in the east. We don't see them quite that big. We don't see the sites that you have here in the State of Washington.

Q. What else?

A. Well, there was no question but what, in my mind the most valuable use that that place could be put to was a hydro electric dam, there was no question about that in my mind.

Q. Well, what were some of the advantages that you thought there were in connection with a project at that place?

A. Do you mean the power?

Q. The project that was built there. What would be the value of building a project there, on that undeveloped site?

A. The fact that you could get the power out of that particular site at a very low cost.

Q. Yes, but in addition—

Mr. WHITE: I object to that, your Honor, and move that the answer be stricken as far as it went.

I take it that Mr. Dill is withdrawing the question in any event.

MR. DILL: Well, there are some other advantages in a site of this kind, and I think he can tell what they are.

THE COURT: Yes, there is no question pending however.

Q. (By MR. DILL:) What other advantages are there besides those that you have mentioned, for a project at the Z Canyon site. You have mentioned the canyon and those things, but were there any other advantages?

A. Well, it would have the ability to take some peaking on the power, you are able to peak with the storage that you have available. I have discussed the important physical features.

Q. Well, any other features, not physical?

A. Well, it has the ability to produce power very cheaply.

MR. WHITE: I object to that, your Honor, and I move it be stricken. This witness has not shown any qualifications in support of such an opinion.

THE COURT: I will sustain the objection. He has not shown any foundation or knowledge in that particular subject.

MR. DILL: Well, I don't remember now what my question was.

(Question read)

Q. (By MR. DILL:) There are other advantages in a dam site more than a narrow canyon.

The COURT: He just said that you could make power cheaper there.

Mr. DILL: Yes, that is right, the answer was not responsive.

The COURT: The answer will be stricken.

By Mr. DILL:

Q. I am asking you about the other advantages.

A. Oh, I beg your pardon.

Q. The other broad features of the project.

Mr. WHITE: I object to this, your Honor, I think he has to have a more specific question.

The COURT: All right, lead him.

By Mr. DILL:

Q. Were there any advantages in the matter of the necessary costs of railroad relocations?

A. Well, the thing that impressed me greatly was that there were no railroads to be relocated. There were no highways to be relocated, there were no bridges to be raised or built or reconstructed.

There was very little improved property that I could see in the reservoir.

The site is very close to the main transmission line that is going to be built from Canada down to Spokane, and down into the general area, a very short distance from that.

A railroad exists there within a reasonable distance, where they can bring in the materials.

Practically, in this hydro development, is in one parcel, and the time for construction would be relatively short.

There is a large amount of upstream storage in Pend Oreille Lake, Flathead Lake, in Albeni Falls Lake—I think that is the Pend Oreille—there is an enormous storage in there that will be helpful in sustaining this flow in a fairly reasonable manner, and those factors all came into my mind and impressed me greatly.

MR. DILL: I believe it is time for recess your Honor.

MR. WHITE: Your Honor, before we recess, if he is going to express a dollar opinion as to value, we would appreciate having it at this time so that we could look at it; if there is an analysis or anything else which might be in back of the figures, so that we can follow the testimony and perhaps expedite the proceedings, so we will know what this is all about.

We haven't had the benefit of anything so far, no report, if this witness has rendered to the district a report. Maybe we are not entitled to it, but we certainly would like to move the trial along. We have gotten nothing so far.

MR. DILL: I don't know of any report, your Honor, I haven't had any. I don't know what he may have done working by himself, but I haven't seen any report. I haven't known of any figures that would be of benefit to counsel.

MR. WHITE: It goes beyond a formal report, your Honor, to any statistical data, or arithmetic or mathematics which he went through, which would certainly be helpful to us, to move things along, if there are any such.

Mr. DILL: Well, I may say, the approach this witness is making, I don't think there is any data of that kind, even in his working papers. I don't know, I will investigate that, but I don't think there are.

Mr. WHITE: I wonder if we might at least know which of the three approaches this witness is using so we can at least bring to bear whatever information we have as to these approaches?

Mr. DILL: Well, I think that is a matter we can develop as we go forward.

The COURT: Yes, you may, counsel, but what I am going to do is speed this matter up.

Mr. DILL: I realize that.

The COURT: If there is any possible way we can speed this matter up by your giving any information to counsel, I would be delighted to have you do that. You have only one more day on this case, you know.

Mr. DILL: Well, I don't know of any data that we have that would be beneficial. I have had none. And I don't—

The COURT: Certainly, counsel knows what approach he is going to use in arriving at a value, don't you?

Mr. DILL: Well, I think he is going to use an approach of taking all of these facts into consideration and arriving at a valuation without any comparisons or any other figures of other dam sites or anything of that kind. That is my understanding of the witness' approach in his testimony.

The COURT: All right. Well, if you do have anything or know of anything, would you mind giving it to counsel?

Mr. DILL: Thank you.

The COURT: All right, let's recess.

* * *

By Mr. DILL:

Q. Yesterday when we closed you were giving some of the favorable factors for this Z Canyon property, particularly the dam site being considered for power uses. Have you any other favorable comments?

A. Yes.

Q. Would you state what they are?

A. The undeveloped hydro-electric dam sites in the Pacific Northwest are scarce, and the demand for power is increasing. I know of no other site like Z Canyon site.

There are large fairly well regulated flows of the stream, there is an adequate supply, a reasonably adequate supply of water for large power development at Z Canyon.

Mr. WHITE: I move to strike the response of the witness. There were several aspects to it. The first one I heard was one that certainly had no foundation behind it, the ability of this witness to express an opinion as to the market for power.

The COURT: Well, let's read over the question and the answer.

(Record read)

The COURT: And what was your motion, Mr. White?

Mr. WHITE: My motion, your Honor, as I heard the answer read back, is addressed particularly to the two elements of his response, any statement by him as to

the demand for power increasing in the Pacific Northwest, while he has shown no familiarity with the market for power here in the northwest whatsoever. He said he read several of the Bonneville bulletins, but I hardly think that that would form a basis for reaching any judgment as to the market for power in the northwest.

Secondly, he says that this dam site is unique in the northwest. As far as I have been able to determine, the only other dam sites that he has looked at are Box Canyon and Cabinet Gorge and Noxon Rapids.

The COURT: No, he didn't say it was unique, he said that he knew of no other like it.

Mr. WHITE: Well, that is true, but I think that the inference that he sought to leave was that it was unique.

The COURT: I recognize your objection, counsel, but I feel, however, that some of the things that you mention are perhaps matters about which I might take judicial notice; that there is an increase in population, and therefore an increase in the demand for power, that is something that appears in the newspaper practically every day, practically, and I think that the knowledge that the witness gains in that way, as well as his inspections, and investigation of matters are things that an expert can utilize in the expression of opinion.

I don't think that he should say how much the increased demand was, but generally, I think he can answer. I will let it stand.

By Mr. DILL:

Q. What do you understand by the term "Cash Market Value"?

A. It is that amount of cash money which a prudent, well-informed, willing seller, not compelled to sell will accept from a prudent, well-informed, willing, purchaser, not compelled to buy, will pay.

Mr. WHITE: Your Honor, I object to this witness reading his testimony in giving an answer like that, just reading a definition, I think that is entirely improper, and we object.

Mr. DILL: I think he had a right to prepare his answer in the exact language in which he wanted it. This is rather a vital definition, and certainly if it is his own composition, I don't think there is any objection to him reading it so he gets it exactly as he wants it.

The COURT: Well, counsel, the testimony of the witness is supposed to be his testimony, and if he is using notes to refresh his recollection, that is one thing, and he can do it without question, but if he has matters before him which he reads, that places his testimony in a different light, and I don't know whether it is his definition or not.

Mr. DILL: I will ask him, your Honor.

By Mr. DILL:

Q. Did you prepare this definition yourself?

A. Yes, I did.

Q. You wrote out the statement that you read, yourself?

A. Yes.

Q. It is your definition?

A. Yes.

Mr. DILL: I think he has a right to be sure that he gets the words in it that he wants, your Honor, I can't see any objection to that. I can't see any objection to his reading it. Otherwise, I can have him restate it as best he can, but I think it is better this way, and saves time.

The COURT: I will let it stand. Is he going to read his testimony?

Mr. DILL: Not all of it, certainly, but certain things he may read.

The COURT: I think that is the objection that he is supposed to be testifying from his recollection, and his knowledge, but he will be permitted, of course, to use notes to refresh his recollection.

Mr. DILL: Well, for instance, the next question is concerning unfavorable factors. Of course, your Honor, he can use his memory, but he has a right to refer to notes as to what those things are.

The COURT: Yes, he can refer to notes, but just to read his testimony, that is an entirely different thing.

Mr. DILL: Well, I will ask the question, but I feel he has a right to refer to this particular item.

By Mr. DILL:

Q. Are there any unfavorable factors that you considered in appraising this PUD property?

A. Did I understand you to say first as to the favorable ones?

Q. The first was the favorable, and now I want the unfavorable. Did you find any unfavorable factors?

A. I certainly did.

Q. What are they?

A. Well, the owner, or a prospective purchaser, has no FPC license, that is one thing.

You would have to acquire the State rights on the river necessary to build the dam at Z Canyon. You would have to get permission from the Federal Government to use their land, which had been set aside for Power Plant purposes. You would have to get the right to overflow the remaining private properties.

By investigation I have found that the mining companies, and from the evidence that I have heard here, the mining companies would not object to a low dam at Z Canyon, but they might object to a high dam at Z Canyon.

* * *

Q. (By Mr. DILL:) Did you learn anything about the withdrawal of government lands?

A. Yes, I did. I learned that the government had made a provision or set up an order that they would withdraw those lands, provided the lands were used for waterpower purposes, as early as 1910.

Q. Well, you spoke yesterday about having examined certain reports of the Army and, I think, some other reports. Did you examine any other reports than those you mentioned yesterday?

A. I examined the Harza report, and then I received some data from Mr. Stenson, of Beck Associates.

Q. Well, did you make any investigation as to the marketability of power in this area?

A. Yes.

* * *

Q. Well, Mr. Courtney, I will ask you, have you made any investigation in the area as to the marketability of power?

A. Yes, I did.

Q. Have you talked with anybody in this matter?

A. Yes, I have.

Q. Who did you talk with?

A. Well, I talked to Mr. Stenson, who has been doing a lot of PUD financing, and found out that, for instance, the Wells project had just started recently to be built, and that any power that could be produced at a site like this could be very readily sold in this area—I just picked out one illustration there—and these sites are constantly being constructed.

Mr. WHITE: Your Honor, we would move to strike any conversation that this witness may have had with Mr. Stenson. Anything that Mr. Stenson had to say, I assume, was said when he was on the witness stand. This isn't proper.

* * *

By Mr. DILL:

Q. Were you here and heard Mr. Stenson testify?

A. Yes, oh yes, I was present.

The COURT: I will overrule the objection.

Mr. DILL: Then the answer may stand, I take it.

The COURT: I think you had better ask him again.

By Mr. DILL:

Q. I think you said that you had talked with Mr.—

A. With the Bond Firm, Mr. Stenson.

Q. You had learned certain facts from them?

A. Yes.

Q. What did you conclude from the facts that you learned and from these men that you talked about, in connection with the marketability of power in the Pacific Northwest?

Mr. WHITE: Same objection.

The COURT: Objection is overruled.

The WITNESS: Shall I answer?

The COURT: Yes.

The WITNESS: That it could be very readily marketed in the Pacific Northwest Area.

By Mr. DILL:

Q. As a result of your investigation of these various facts that you have referred to, did you come to any conclusion as to the probability that the owner of this property, this dam site property, being able to develop it within the reasonably near future?

A. There is no question about it.

Mr. WHITE: I object to that, and ask that the answer be stricken, your Honor, there is no basis for that.

The COURT: I will sustain the objection. There are too many factors in that question, counsel.

* * *

Q. From an engineering standpoint, then, in connection with the question just read.

(Question read)

By Mr. DILL:

Q. What conclusion did you come to as an engineer?

A. I didn't hear the last part of the first question.

(Question read)

By Mr. DILL:

Q. What was your conclusion?

A. Well, it could be developed in the reasonably near future.

By Mr. DILL:

Q. Now, you told about making all of these studies and examining these reports, conferring with various people, examining the site, using your general knowledge and experience. Have all of these things enabled you to make an appraisal of the cash market value of the Z Canyon power site in its undeveloped state, and the rights and properties being taken?

A. Yes.

Q. Did you come to any conclusion as to the adaptability of this dam site, the special adaptability value of this dam site?

A. Yes.

Mr. WHITE: Your Honor, there is no foundation for any opinion by this witness for any dollar figure which I gather is the reason for this preliminary question.

Referring to the previous action by the Court in this case when I had a Mr. Butler on the stand on direct examination, on page 94 of the transcript, I asked Mr. Butler practically that same question, Mr. Dill objected as to whether or not, based upon his in-

vestigation, qualifications and so forth, he had an opinion as to the value, and your Honor sustained an objection at page 94.

I think we have the same situation here.

Except, however, that at that point at least Mr. Butler said what approach value he was using, namely a comparable sales approach. This witness hasn't even told us yet what approach he is going to use.

Mr. DILL: Well, on the highest and best use.

Mr. WHITE: As to the highest and best use, he has already testified as to that.

Mr. DILL: I asked him whether, with all the studies and the work he had done, whether that enabled him to make an appraisal of this property.

The COURT: He can answer that question. It is the next question that counsel objects to.

Mr. WHITE: He already answered the question counsel refers to.

Mr. DILL: Yes, that was the question as to the special adaptability of the site.

By Mr. DILL:

Q. Now, is there any difference in appraising a dam site, and properties of this kind in the State of Washington? Is there any difference in the method used in appraising a dam site in the State of Washington as compared with a dam site in other states where you have had experience?

Mr. WHITE: That is an improper question, your Honor, and objected to. We objected to that same question in connection with the testimony of Mr. Ober-

billig. What we are interested in here is the approach to the valuation, not what approaches were used in Arkansas or in New Jersey.

The COURT: The objection is overruled.

Mr. DILL: Now, your Honor, I was just going to say that practically all the questions which I have been asking and which I have been relying on, were found in almost the identical language in the transcript of the record in U.S. Supreme Court, in this Grand Hydro case, where the evidence was placed before the U.S. Supreme Court—it had been before the Oklahoma Supreme Court, and practically in all of these questions that I have asked, I have framed on this order as being the method that we had right to use for a witness to arrive at appraised value.

The COURT: I sustained you on the last ruling, counsel.

Mr. DILL: I just wanted to remind the Court. Counsel says he doesn't know the method of approach. I think that by this time he could see that it was the method of an expert witness, study all the facts, all the conditions and arriving at an appraisal value, that is the method I am using, it was the method that was used on three evaluation experts.

I have the complete transcript here (indicating) and actually I talked to Mr. Hudson and I have a letter from him. He handled this entire case and he says that this is a complete examination of the witnesses on valuation used in the Grand Hydro case. It is unusual, it is different, but in the light of the

Court's ruling, I know of no other approach that I could use which would be admissible in this situation, and that is why I have followed this method. I am just using the opinion of an expert witness without going into anything else.

The COURT: I think you misunderstood me. I said that I sustained you and I would overrule the objection.

Mr. DILL: I am sorry, your Honor, I misunderstood. I appreciate the information.

By Mr. DILL:

Q. Did you appraise this dam site?

A. I didn't answer the preceding question.

Q. You didn't answer the preceding question?

A. No.

(Question read)

A. No, the method of appraisal is the same.

By Mr. DILL:

Q. Did you appraise this dam site as an undeveloped dam site on the Pend Oreille River?

A. Yes, I did.

Q. I will ask you to state to the Court the cash market value of the dam site with the other property of the PUD which you have appraised?

Mr. WHITE: Your Honor, I object on the grounds previously stated. There is no foundation for the expression of any dollar value opinion by this witness. Now, as I understand the statement of counsel, he has not used any one of the approved methods of approach to this problem of valuation. Counsel says:

that he is trying to follow the Court's ruling in the Grand Hydro case, but I think U.S. Supreme Court took no view whatsoever in respect to the question of whether or not that was a good, bad, or indifferent method.

Secondly, it appears from opinion of the Oklahoma Supreme Court that the method used there was an entirely different method from that which is being attempted here. There the method used was the steam comparison method. They set up a hypothetical dam v. a hypothetical steam plant, and got the value of this hypothetical power, and then the witness, after extensive economic analysis made a comparison and testified as to the fair market value, and I think that shows right in the opinion.

Mr. DILL: Well, I might say that this is the evidence, the transcript of the record that went up from the State Supreme Court, and was approved there, the Court approved the action of the State Supreme Court, and it is on the basis of the theory that an expert witness who investigates all these things is competent to express an opinion as to the value of the property. It is the only method that I have, it is the only method that I think I can use in the light of the Court's ruling, that there can be no computation of all these various figures to arrive at a basis. I just don't have anything left. This is a method that has been approved.

Counsel has no evidence here to show that this is not the testimony given, that it was shown to the

Court, and I can introduce it here in evidence if it is necessary.

Mr. WHITE: I would appreciate it if counsel would point out any case in any Court where the court has approved this method of evaluation in which a witness comes to any conclusion like this, in which he gives no background for his opinions other than the fact that he lives at the site, that it looks like a good site to him, and that he talked to some people about it.

Mr. WHITE: You will have to show the approaches he is using, just as you objected to the testimony of Mr. Butler, and I can think of no occasions to cite on that which express it better than in Nichols, at page 168, Sections 18 and 42. We should not have to cross-examine this witness at our peril. I don't think it needs any citation that an expert witness must establish fully on direct examination the basis and his background in support of his opinion. It is not up to the other side to develop that on cross examination.

The COURT: No, I feel that the testimony on qualifications should contain some information as to what he used as a yardstick.

Mr. DILL: I am willing to do that, but yesterday the Court struck the testimony of the other witness who proceeded to use a method of calculation, using figures, rather than to just base it on his experience and his judgment, so I found it was of no value in this case, and I suggested proceeding along this method as approved by the U.S. Supreme Court.

The COURT: That wasn't in question in the Grand Hydro case, was it?

Mr. DILL: This is the evidence that was presented. I didn't read the proofs, your Honor.

The COURT: It wasn't questioned?

Mr. DILL: Yes, they questioned the whole situation in the Supreme Court, this is the method which was used in arriving at the amount of money which the jury gave which the Supreme Court of the State of Oklahoma has approved, and U.S. Supreme Court affirmed.

Again, if I start to mention the method of arriving at these matters, by figures, then I am in trouble, because I am using a comparison method, but if that is allowable, I am willing to go ahead and ask him how, if he arrived at this particular appraisal value, but if I go ahead and do it, and it is stricken, for that very reason, I had better stay away from it. That is my reasoning.

Mr. WHITE: On those four citations, in the Grand Hydro case—it is sometime since I have read them, but I have a note here in my legal notes that there is no mention or debate as to the theory of valuation used, and it appears from a recitation of the facts in one of the leading court cases, that it was some alternative approach, an approach which is not used by this witness.

The COURT: We will recess for ten minutes so that counsel can confer.

The COURT: You may proceed.

Mr. DILL: If the Court please, I have here the photostat copy of the decision in the Grant River Dam

Authority vs. The Grand Hydro, 201 Pacific (2d), 225, which is the Ninth Circuit, and in speaking about this testimony that I have referred to and the kind of testimony, the Court said:

“The testimony of the expert witnesses, as introduced, was therefore competent to prove the dam site value of the property and was in accord with our opinion on the former appeal to the same effect as the California case of Metropolitan Water District, wherein there is an extensive discussion of many of the points involved.”

Now, that referred to the kind of testimony—not the kind, but the actual testimony—that was used in the Grand Hydro case from which the appeal was taken.

Well, I thought the question here was whether or not I was to be allowed to go ahead and ask this witness for his value and then, if necessary, fix the basis of it afterward.

The COURT: I think, in view of the objection, that we should have from him some evidence as to the basis of the valuation in advance of the figure, and also the theory on which he valued the property.

Mr. DILL: Well, I want to call attention, before I do that, take up that question, in the case of Puget Sound Power & Light Company against the City of Puyallup, 51 Federal Reporter, 688, in which the same kind of testimony was used:

“It would perhaps have been better for the parties, after qualifying their witnesses, to have merely asked the basic question: what is the market value of the property taken, and what is the depreciation of the market value of the property retained by depreciation of its severance from the property taken—”

and that is the method I am trying to follow,

“—giving the witness full opportunity to explain the bases of their valuation. In such case, no doubt, the same question would come up on direct and cross-examination, for if it appeared, either on direct or cross-examination, that the witness has pursued a wholly unwarranted course in arriving at his estimate of value, it would be necessary to make correction thereof either by striking out his estimate of the market value or by instructing the jury to disregard that portion of the testimony.”

So that I see it makes little difference whether I ask him the basis of his valuation before or afterward. I was trying to follow the method here suggested by the Ninth Circuit, but if your Honor thinks that I should follow the other method, I am willing to do that.

The COURT: One of the reasons was we did that with Mr. Vaughan here. Now, if there isn't any objection on counsel's part, we can do it the other way.

Mr. DILL: Counsel objects to everything I want to do, I suppose he objects to this.

Mr. WHITE: I do. I'm sorry to be put in that position, but actually—

Q. (By Mr. DILL) Well, I will ask you, then, what was the basis of the valuation that you made?

A. Well, I studied the Harza report, I found what the cost of the project would be—I found out, that is, what the installed capacity of the plant would be; I found from Stenson's testimony what the cost of the energy would be; then I took into account all the favorable factors that I have enumerated and also all

of the unfavorable factors, and after doing all of this, I used my judgment as to the fair market value of this undeveloped dam site appraised as one unit.

Q. Well, now, I will ask you to state what that cash market value of the dam site, with the other properties, is?

Mr. WHITE: Your Honor, we object on the same ground. He hasn't furnished any yardstick, as your Honor put it, yet, and he hasn't stated the theory on which he valued the property, the two ingredients which it has been stated are necessary in order to give an opinion.

Our research indicates that the only jurisdictions, basically, in which a witness is permitted to give his opinion before he gives any basis, or irrespective of the basis and just merely gives his judgment, are in the jurisdictions where the comparable sales approach is not permitted. I think in Pennsylvania, and one or two other states, where that is permitted. But certainly here, he has got to state what the theory is and what yardstick he used.

Mr. DILL: Well, he testified there were no comparable situations. He testified he used these figures as a basis on which he built his estimate of value, and if counsel in cross-examination wants to develop that, he can. But that was the basis on which he came to a conclusion of the valuation. No comparisons here, simply takes the valuation, in light of his experience, his knowledge, the facts he had learned in this area, and considering everything favorable and unfavorable, he arrived at a valuation. And certainly—

Mr. WHITE: Just gives a figure, your Honor. He must have gotten it from somewhere and used some yardstick, and I don't think it is the burden upon us to develop how he built it up.

Mr. DILL: But he told the yardstick that he used.

The COURT: Well, I didn't hear it. He is converting all these things into dollars. What does he use to measure the number of dollars with?

Mr. DILL: By his own judgment and experience. He has to rely—

The COURT: He has got to base it on something, doesn't he?

Mr. DILL: Yes, he based it on these figures, after he had all of them before him.

The COURT: What is the yardstick? If you are going to buy or sell a home, you will look at another home and find out how much that sold for, don't you?

Mr. DILL: He can't do that.

The COURT: He must have used something.

Mr. DILL: Well, he said he took all these various things that he learned from various reports and he learned the cost of this power, and then, knowing it could be sold in the area, he made an estimate from his experience as to what would be a fair valuation between a purchaser and a seller.

The COURT: Do you know on what basis he made it?

Mr. DILL: Well, I thought that was the basis.

The COURT: Well, did he take the revenue from the power and take off the cost of producing it?

Mr. DILL: No, no—

The COURT: And make the calculations?

Mr. DILL: You get then into a situation where your Honor said we couldn't follow. That is the ordinary method, I must say, your Honor.

The COURT: For appraising raw land?

Mr. DILL: Well, for appraising property of this kind, which has a special value for its adaptability.

I must say that it seems to me we are far from realistic by not being able to go into these figures as a buyer and a seller would, which your Honor has ruled we can't do that, and so we have to rely on the expert witness having to learn what the facts were about this project, and without regard to other projects, knowing the marketability situation, he can estimate.

The COURT: Why do you do it without regard to other projects?

Mr. DILL: Well, because it has been forbidden, we couldn't do that.

The COURT: Why?

Mr. DILL: The Court ruled yesterday, as I understood your Honor, that because he made comparisons with other projects, that the approach was wrong and couldn't be used. If I am wrong in that—

The COURT: No—well, other projects where raw land has been sold.

Mr. DILL: Well, I don't know of any. There isn't any so far as we can learn, raw land with this kind of a situation.

The COURT: All right, I didn't intend to argue with you, counsel.

Mr. DILL: No, I know, but I want to be clear. I didn't understand your Honor's ruling. I understood that because he took the comparison with these other sites, the costs in these other cases, that it must be stricken.

The COURT: You asked him, as I recall, whether he had ever given value—

Mr. DILL: Yes.

The COURT: —of raw land for power site purposes.

Mr. DILL: Yes, I did ask him. He said he did it in two or three cases. He did it in the Twin City case, he helped Justin prepare it in the Tennessee Valley case, Powelson case, he did it on an Arkansas case, he had worked out this sort of thing. He is not without experience in that work.

The COURT: No, but he must have used some method, didn't he?

Mr. DILL: Well, I suppose he did.

The COURT: Can't he testify what method he used?

Mr. DILL: He had comparative properties there, but here there are none, and, of course, it seems to me there must be some way that an expert witness can give a valuation, and there are no comparative sites. Yesterday it was pointed out that the sites that were used were not comparable in any way, a lot of things in them, and this is a unique site, it is a different site, and it seems to me he must rely on his experience as an expert witness to fix what in his judgment, after considering all the favorable and the unfavorable—and I must say he was certainly frank in having considered all the unfavorable things—he has a right to

give an estimate. And if counsel on cross-examination shows that his method was improper, why, of course, the Court would strike the testimony.

I don't know how—I can go ahead, but you can't compare it with others, because there is no other where we have a similar kind of property to be valued, raw land value.

This thing is unique. You can go all over the country. I suppose Hells Canyon is about the only place where you could get anything like this, and investigation down there was the State of Idaho and 90 per cent of it was government, there was no purchase from a private owner or anything of the sort, and the liberality which the courts have shown in their efforts to be fair, in their efforts to arrive at fair treatment of an owner, have grown more liberal as the years have gone by.

These cases cited here, this method used in the Hydro case is completely without any basis, simply that he studied all these things. If your Honor will permit, I would like to read some of the questions and answers so that you may see what this testimony is.

The COURT: I don't think you need to, counsel.

Mr. DILL: Well, it seems to me, when this method has been allowed and approved, your Honor will not be in error to follow a similar method which was approved both in the Oklahoma State Supreme Court, as I read here, and was approved then by the United States Supreme Court; that is, the value arrived at was approved, they didn't discuss the particular method.

My co-counsel suggests it is a matter of discretion with the Court. It is not an abuse of discretion to allow it to be considered, give it whatever weight may be felt proper to give it, but—

The COURT: Can this man testify as to what methods he used to value the property in these other cases?

Mr. DILL: Yes, I think he can. I will ask him what methods he used in other cases.

Q. What method did you use, for instance, in the Twin City case, where you were a witness, to value the raw land, the raw, undeveloped dam site?

A. Well, one approach—in that particular case?

Q. Yes, in that particular case.

A. It was worked out on the basis of capitalization of earnings, one method. Another method was comparative sites, which was something along what Mr. Vaughan—which was along the general line that Mr. Vaughan had, and the general experience of the combined men that served on that, on those three engineers who were employed by Twin City.

Now, any one of those factors wasn't the whole factor. The judgment factor was the big factor.

Q. Judgment factor of whom?

A. The judgment factor of each one, each witness.

Q. Expert witnesses?

A. Yes, that's right.

Q. Yes.

A. The judgment factor of how you arrive at the final answer can't be worked out by multiplying something by something and dividing by "Y" and come up with an answer. You have to go to the experience of

the man that is working on the job.

The other methods that I mentioned were simply methods that were used to help check the proposition.

Q. Well, then you say you assisted Mr. Justin in the Grand Hydro case, and how did he arrive there at his judgment?

A. Well, judgment was a big factor, very big factor, in that case, but there were some figures made up on capitalization.

Q. On capitalization, but were they used as controlling in any way?

A. Oh, no. No, they weren't controlling.

Q. And as to his testimony, do you know whether he set forth at any time how he arrived at it?

A. No, not to my knowledge.

Q. Either, I may say, on direct examination or cross-examination.

Have you any other experience as to how you prepared, made up, the valuation of a raw land, undeveloped dam?

A. Well, when we did the Powelson case, as I told you yesterday, the method that we used, one of the methods, was the capitalization method. Comparative site, in a way, but that had very little weight in that particular case because it was involved, and it came down again to judgment.

Q. Of the appraiser?

A. Judgment. After we analyzed it and debated it, it came down—we had to decide it on the basis—

Q. What was the basis in these cases on which it was decided?

A. Well, the final decision was made in every one of them on the basis of judgment.

Mr. WHITE: Your Honor, I move to strike that, quoted opinions.

The COURT: I think that is a conclusion of this witness.

Mr. DILL: Well, I was simply asking these questions as to what method he had used there, and those methods, such as capitalization of others, are not to be considered here and not allowed here, and so we have followed the method that was used and approved in other cases; namely, that, as an expert witness, he considered them and he took these figures from the reports that he had and he found out all these facts, and from those facts, namely, the cost of the power and knowing there was a market, the general knowledge of everything here, he then made an estimate of what a willing seller and a willing buyer might agree upon.

It is indefinite, it is uncertain, it must be in somebody's judgment, and the expert witness is the only one that can make such a judgment, it seems to me.

And I think he should be allowed to give his estimate on the basis that he stated here, that he used these reports. He didn't attempt comparison, because there are no comparative properties, nothing like it in the whole country, even here in the Pacific Northwest. And, of course, if your Honor takes the position that you can't use comparative sites, as he did yesterday, as I understood—

The COURT: You misunderstood the ruling, counsel. The testimony was stricken because he based his opin-

ion of the fair market value on the ratio of operating projects, the land ratio to the power output and income.

I think that was an entirely incorrect basis. That is the basis upon which his testimony was ruled out. I think it is very clearly spelled out in the record.

Mr. DILL: Well, do I understand, then—

The COURT: I think if this man could tell what method he used to value this property, his testimony might be admissible, but do you object to his telling?

Mr. DILL: No, I thought he did explain.

The COURT: Why don't you let him answer?

Mr. DILL: I thought he did explain.

Q. Will you explain again what you did to come to these figures?

A. Well, I studied the Harza report, I obtained figures from Stenson on the cost of energy, I found out the installed capacity, and then I took into account all these favorable factors that I enumerated, all the unfavorable factors that I enumerated, and from that information I came up with—

Q. Well—go ahead.

A. —came up with what, in my judgment, was a value.

Q. Well, did you—

A. Now, of course—pardon me.

Q. Did you attempt to figure out or use in your arriving at that value the cost of the power to an owner who might develop here, an estimate of that cost of power?

A. Yes, yes.

Q. And you considered that in connection with the and and the land rights that would have to be secured, how much you could allow for them?

A. Yes. Oh, yes.

Q. And after doing that, using your judgment, considering all these things, you arrived at a valuation that, in your judgment, was fair?

A. That's right.

Mr. DILL: If we want to go in and put down all the figures, but there are no comparable projects that I know of on this particular thing, and it seems to me that we can have him demonstrate these figures, if the Court would like.

The COURT: Do you know whether he used the comparative sales method or the capitalization of net earnings method to arrive at a value?

Q. (By Mr. DILL) Did you use the capitalization method or the earnings method to arrive at your value?

A. Well, I used it somewhat as a check method, yes.

Q. A check method?

A. Yes.

Q. You worked out the capitalization as a check method?

A. Yes. That is only one. Bear in mind that that is only one part of this whole picture.

Q. No, but in arriving at the valuation, you finally arrived at it, what did you base it on? Did you use the earnings method of the project?

A. I used all of the methods. I used capitalization and I used the comparative sales, I couldn't help in thinking about it. When a man writes a report and says you can get 550,000 kilowatts out of this plant and he gives you the cost, immediately you know what the cost of the project is per kilowatt. That is used all over the country by everybody. You know how good the project is by what it cost. I have to take that into account. I can't escape it. It surrounds you, all these things surround you, but none of those particular methods—

Q. You didn't use—

A. —are solely the method that you use, because when you come out, you have got to come down here, you have got a place that is a very easy dam to build, you got good foundation conditions, you have no railroads to move—

Q. Well, now, wait, let's keep back to these figures.

What I want to get at is, in figuring the land rights cost, what figures did you rely on to arrive at your conclusion? I think that is what the Court is interested in.

A. You mean the method?

Q. Well, the method, yes. How did you do it?

A. Well, I said the capitalization method.

Q. I know, but you took these figures from the report of Harza, you took the data you got from Mr. Stenson—

A. Stenson.

Q. —and, as I understand you, you used them to arrive at the cost of the power to a producer or a developer of this dam?

A. I took it into consideration, yes.

Q. Well, didn't you use that? What did you use?

A. Yes, I used that.

Q. Yes. And then how did you arrive at a cost for the land rights that you have to develop with here?

A. Well, I have another method—

Q. No, no, what method did you use?

A. I used a number of things that I combined into a judgment figure.

The COURT: All right, counsel—

The WITNESS: Huh?

The COURT: Just a moment.

I think probably, to speed matters up, if you let him testify and give his figure, and then confront the matter on cross-examination, if it is necessary. So I will permit him to answer.

Mr. DILL: The amount of his valuation?

The COURT: Over counsel's objection.

Q. (By Mr. DILL) What valuation did you put upon this property as a raw dam site, as an undeveloped dam site, along with the other properties of the PUD in the river?

A. The amount of money in cash, as the fair market value, is \$7,500,000 before the taking, and \$7,498,000 after the taking. I valued the 191 acres—or the 110 acres, after the taking, as \$2,025, which I rounded out at \$2,000.

Q. How did you arrive at the \$2,025?

A. Well, I took 191 at \$25, which was \$4,775, and I took 110 at \$25, which was \$2,750, and that left \$2,025, and I just established it as \$2,000.

Mr. DILL: That is all, your Honor. Counsel may cross examine.

* * *

CROSS EXAMINATION

Q. Now, can you tell me how you reached this figure of \$750,000, and I am not interested—

Mr. DILL: 750?

Mr. WHITE: \$7,500,000.00.

Q. I am not interested in your repeating what you relied on as I am what arithmetic you went through to arrive at this figure?

A. Well, if I may go to the board, your Honor, I will try to explain it so it can be understood.

The COURT: Yes. You had better wait until counsel asks you about that.

Mr. WHITE: Well—

The COURT: You didn't ask him to go to the board.

Mr. WHITE: All right—

The COURT: What do you want him to do?

Mr. WHITE: If you would be more comfortable to work at the board, Mr. Courtney, by all means.

A. Well, I can do it here.

Q. All right, either way. If you can do it from your present position, why, go ahead.

A. Okay.

The COURT: Would you rather do it at the board?

A. That is all right.

Mr. DILL: Do you understand the question?

A. I understood he wanted to know how I arrived at \$7,500,000.

Mr. DILL: Yes.

A. In other words, what is my method of approach.

Mr. DILL: Yes.

A. In order to get the price.

Mr. DILL: All right.

A. I established—or I didn't—I took the figure that Mr. Stenson had worked out for the cost of the energy in mills per kilowatt-hour for no land in the estimate—

Q. (By Mr. WHITE) Would you give us that figure, please?

A. That is 1.59. Then I found out by computation, with \$10,000,000 assumed to be added to the bond issue cost, or the over-all cost of the project cost, plus Mr. Stenson's overheads and bond cost and interest on construction and all such things as that, I found out that it would cost 1.72 mills per kilowatt-hour.

I went up another step and did the same thing, if I added 20 million dollars to the cost of the project, and that came to 1.85.

Now, that happens to be a straight line on a slope, because, you see, it is increasing from 1.59 to 1.72 to 1.85. That would be for the High Z. Now, that could have been carried further up on the High Z, I could have gone to 30 million.

But then I went over to Low Z and I took the figure that he had established for the cost of energy, no land included at all, except my item of half a million—and I trust you understand that that is in the bond issue, I put a half a million in there—

Q. You added the half million dollars to the construction costs?

A. I added, on top of all of Mr. Stenson's figures, on top of all of Harza's figures, I added half a million in. I got 2.4 that he had established in mills per kilowatt-hour for no land.

I went up to the 10 million line and I established or found that it would take 2.63 mills per kilowatt-hour. Then I went up to the 20 million line and I found that that would be 2.86 mills per kilowatt-hour.

Now, when I got those curves, I could readily see that adding as much as 20 million dollars into this project for land, the cost would be under 2 mills for High Z Canyon, and it would be under 3 mills for Low Z Canyon. My conclusion immediately there was that it was an extremely valuable computation by using the cost, which I will call the cost method.

I used my judgment as to what point on this curve I should adopt as my fair market value. I knew several things from experience about how much the land would cost, in general, in relation to the cost of the total project, and I finally came down to a final answer that with seven and-a-half million allowed for land, the cost of the power would only be 1.69 mills per kilowatt-hour, and, likewise, if I went over to the Low Z, it would—I haven't that line on here, but it would be approximately, oh, about 2.6 mills per kilowatt-hour.

So, in any case, the project is extremely favorable, and there is no question but what the power could be marketed, and it is a very valuable, undeveloped land site.

Chapter 125 of the Session Laws of 1907**"GRANTING THE RIGHT TO OVERFLOW STATE LANDS
FOR CERTAIN PURPOSES.**

"An Act providing for and giving and granting the right, privilege and authority to perpetually back water upon, overflow and inundate with water, lands belonging to the state of Washington, in the erection, construction, maintenance or operation of water power plants, reservoirs, or works for impounding water for power purposes, irrigation, mining, or other public use.

"Be it enacted by the legislature of the State of Washington:

"Section 1. That there be, and is hereby, granted by the State of Washington the right, privilege, power and authority, to any person or corporation, to perpetually back and hold water upon and over any land belonging to the State of Washington, and to overflow any such land and inundate the same, if it be necessary in the erection, construction, maintenance or operation of any water power plant, reservoir or works for impounding water for power purposes, irrigation, mining or other public use.

"Sec. 2. The right, privilege, power and authority herein given and granted shall not be exercised or enjoyed until application shall first be made to the Board of State Land Commissioners to have the amount of damages appraised and fixed, which shall be done within sixty days after such application is made.

"Sec. 3. When and as soon as said damages are so fixed and assessed by the Board of State Land Commissioners, the same shall be paid to said officer.

"Passed the House February 26th, 1907.

"Passed the Senate March 6th, 1907.

"Approved by the Governor March 11th, 1907."

Excerpt from the report of the Commissioners to the Honorable C. C. Wycke, United States District Judge for the Western District of South Carolina and to the Honorable F. M. Scarlett, United States District Judge for the Southern District of Georgia in the Twin City litigation.

Therefore, it now remains to determine what the value of these properties were for water power purposes.

In reaching a decision on this question, the Commission is fortunate in having had the testimony of very skilled, capable, competent, learned and experienced hydro-electric engineers, and we were greatly impressed with the testimony that was given by those witnesses.

Dr. William P. Creager, Mr. R. C. Johnson, Mr. Neville C. Courtney, witnesses for Twin City, and Mr. William A. Farley, Mr. Harrison G. Roby and Mr. Eugene F. Logan, witnesses for the plaintiff, are all hydro-electric engineers of the highest standing, whose knowledge and capabilities in that field are beyond question.

As heretofore stated Mr. Logan, witness for the plaintiff, testified that the holdings of Twin City constituted a good site for a hydro-electric power development, but his testimony consisted principally in an explanation as to why it was impossible to accurately determine such water power value. Mr. Farley's testimony was confined principally to the fact that Twin City could not have gotten a license from the Federal Power Commission to construct such water power development at Price's Island and the river valley above;

but he did state, during the course of his testimony, that Twin City's site was a good one for a hydro-electric power development, but not as good as that at Clark Hill. Mr. Roby did not question the fact that the holdings of Twin City constituted a suitable site for the establishment of a hydro-electric power development, but his testimony was confined almost exclusively to explaining why such development would be of no value, since an equivalent amount of power could be generated by steam at less expense than by the hydro-electric development.

To go into the testimony of these witnesses at length is neither necessary nor called for, and would certainly unduly prolong this Report. However, we call attention to the testimony of Mr. Roby, as contained in pages 476-579 of the Record, and then to the reply testimony of Mr. Courtney, contained in pages 907-945 of the Record, and particularly Twin City's Exhibit 43-1, contained in pages 944 and 945 of the Record, in which he analyzes Mr. Robey's estimates for the cost of construction of a hydro-electric power installation at Price's Island, and the annual cost of producing power by water, and then shows that such computation is based upon much higher figures than those prevailing for work being done by private individuals and corporations during the years 1947 and following, which were the years in which these properties of Twin City were taken by the United States.

Dr. Creager, Mr. Johnson and Mr. Courtney were all clear in their opinions that the holdings of Twin City

constituted valuable property for water power purposes, either taken alone, or in combination with lands of others to establish a much larger hydro-electric installation.

Mr. Johnson valued the holdings of Twin City for water power purposes, at a minimum of One Million Five Hundred Thousand (\$1,500,000.00) Dollars. (Record, 265). Mr. Courtney, in his testimony, stated that these properties of Twin City had a value, for water power purposes, of at least One Million Nine Hundred Thousand (\$1,900,000.00) Dollars. (Record, 310). Dr. Creager valued the properties of Twin City, for water power purposes, as having a fair market value of One Million Six Hundred Thousand (\$1,600,000.00) Dollars. (Record, 151).

Before determining what we conceive to be the fair market value of the property of Twin City taken from it in these proceedings, it seems that some explanation should be made of the manner in which these engineers arrive at their water-power valuations of these properties.

Actually, as stated by Mr. Logan, there are some four different methods for evaluating potentially integrated water power sites, they being:

- (1). Comparative sales of completed power projects of substantially similar nature in the same section of the country;

- (2). The steam plant comparison method;

- (3). The comparative cost of completed project of substantially similar nature in the substantially iden-

tical section of the country; and

(4). The actual legitimate initial cost. Mr. Logan, in his testimony, stated that the property of Twin City could not be properly evaluated by any of those four methods, and finally testified that he knew of no manner by which the water power value of these properties could be accurately and properly ascertained. (Record, 594). However, during the course of his testimony, he explained that method (4), above set out, was used more as a base for rate making, rather than evaluating property.

From the testimony of all the witnesses, it developed that there have been no comparative sales of completed power projects of a nature substantially similar to the holdings of Twin City, and that there have been no completed projects of a substantially similar nature in this section of the country, the cost of which could be compared with the cost of establishing a completed project in and along the Savannah River at the location of the property of Twin City. For this reason, therefore, it developed that all the witnesses, in the main, had taken the steam plant comparison method as one of the principal bases for arriving at the water power value of the property of Twin City, taken by plaintiff in the above entitled actions. In that connection, we wish to make it clear that the figure arrived at by the so-called "steam plant comparison method," was not taken as an absolute guide, or basis, but was used as one of the principal bases, together with numerous other factors considered by these ex-

pert witnesses who evaluated the property taken from Twin City as being suited for a potentially integrated water power project.

Briefly stated, the steam plant comparison method is used as follows:

These expert hydro-electric engineers first computed the annual cost of producing a definite amount of electric power by water, and then computed the annual cost of producing the same amount of electric power by steam. The difference between the annual cost of producing the power by steam and by water was then computed, capitalized on the basis of six (6%) per centum, which was considered to be the current and sound value of money, and such capitalized value was taken as a principal factor in arriving at the water power value of the property taken. Of course, such capitalized value of the difference between producing power by steam and by water was never taken as the true value of the hydro-electric site, but was considered as being of controlling influence in arriving at such valuation.

After considering all the evidence before us, this Commission is of opinion that the valuation given to the property of Twin City, for which it is entitled to receive just compensation in these actions, is that reached by Dr. Creager, being the sum of One Million Six Hundred Thousand (\$1,600,000.00) Dollars, as hereinafter modified, for reasons set out below.

Dr. Creager gave various estimates of the value of this property taken from Twin City, varying the estimates in accordance with the heights of the head of

water resulting from the construction of dams at the lower side of Price's Island. His calculations were based upon a 60-foot head, a 70-foot head, and an 80-foot head and, as appears from his testimony, the larger the head the greater the value. In that connection, however, the evidence clearly establishes, in our opinion, that what Twin City had had in mind was the establishment of a hydro-electric project with a 60-foot head of water, and our conclusions herein are based entirely on the premise that Twin City had a potentially integrated power site for establishing a hydro-electric plant with a 60-foot head of water. In our opinion, the evidence does not justify us in reaching the conclusion that any higher heads of water than that should be considered.

In reaching his conclusion that the proper valuation of the property of Twin City was One Million Six Hundred Thousand (\$1,600,000.00) Dollars, Dr. Creager first figured that the annual cost of producing the power which a hydro-electric plant, with a 60-foot head of water, would produce was One Million Two Hundred Four Thousand (\$1,204,000.00) Dollars. (R. 182). The annual cost of producing an equivalent amount of electric power by steam would be One Million Three Hundred Forty-three (\$1,343,000.00) Dollars. (R. 179). That gave the water produced power an annual advantage over steam produced power of One Hundred Thirty-nine Thousand (\$139,000.00) Dollars; and capitalized at Six (6%) per centum, this gave the potentially integrated power site of Twin City a theoretical

value of approximately Two Million Three Hundred Thousand (\$2,300,000.00) Dollars. Using that as a guide, Dr. Creager then valued this potentially integrated power site at One Million Six Hundred Thousand (\$1,600,000.00) Dollars, the difference of some Seven Hundred Thousand (\$700,000.00) Dollars being to cover fluctuations in market, the risk that a prospective developer of this project would have to take, fluctuations in demand for power, additional lands that would have to be acquired to complete the project, and other factors best known to that particular witness. In reaching this valuation of One Million Six Hundred Thousand (\$1,600,000.00) Dollars, Dr. Creager computed that Twin City would have had to acquire an additional four hundred (400) acres of land, in order to have the necessary storage reservoir, with a height above the pond level to afford a satisfactory measure of safety in case of high water. He estimated that these additional lands would require the expenditure of Four Hundred Sixty (\$460.00) Dollars per acre, which he designated as the hold-up value which would be required to acquire these additional lands without the exercise of power of eminent domain. (R., 174, 175). The cost of acquiring these additional lands was taken into consideration by him in reaching his valuation of One Million Six Hundred Thousand (\$1,600,000.00) Dollars as just compensation for the value of lands taken from Twin City.

In our opinion, this represents a sound basis for arriving at the value of the lands taken from Twin

City, and the just compensation to which it is entitled, but we further are of opinion that, in reaching this conclusion, Dr. Creager did not feel that Twin City had no rights in the 745.58 acres of land which have been designated as "option acres"; and, as above stated, it is our considered opinion that Twin City had no rights in said acres, under the so-called options, at the time of the original Declaration of Taking, in June, 1947, and thereafter. For that reason, therefore, his valuation should be modified to take into consideration the lack of rights in and to these so-called "options acres." Dr. Creager did testify that he took into consideration the fact that Twin City might have to pay more than the considerations called for in the options, in order to exercise same, but he considered that Twin City still had the right to acquire these acres under the so-called option contracts, with which we cannot agree.

Therefore, it is our opinion that, in order to have the potentially integrated power site necessary to establish the dam with the 60-foot head, Twin City would have had to acquire an additional 745.58 acres of land, and the only sound way to compute the cost of such acquisition, from the evidence, is to take Dr. Creager's figure of Four Hundred Sixty (\$460.00) Dollars per acre. On that basis, the valuation given by Dr. Creager should be decreased by Three Hundred Forty-Two Thousand Nine Hundred Sixty-six and 80/100 (\$342,066.80) Dollars, the cost of acquiring the lands which comprised the so-called "options acres," which leaves the lands of Twin City with a sound market value, for

water power purposes, of One Million Two Hundred Fifty-seven Thousand Thirty-three and 20/100 (\$1,-257,033.20) Dollars.

The payment of that amount for the property taken from Twin City in these actions will, in our opinion, be just compensation, both from the viewpoint of the condemnor and of the condemnee.

**Direct Testimony of the Valuation Witnesses
in the Twin City Litigation**

MR. WILLIAM P. CREAGER, sworn for the Twin City Power Company, Testified as follows.

DIRECT EXAMINATION

By Mr. ROBINSON:

Q. Mr. Creager, for the record, will you give us your name and present address?

A. My name is William Pitcher Creager, and I reside at Buffalo, New York.

Q. And your present age, Dr. Creager?

A. 73 years old.

Q. What is your occupation?

A. Consulting Hydraulic Engineer.

Q. What has been your education?

A. I was graduated from Rensselaer Polytechnic Institute in 1901 with the degree of Civil Engineer.

Q. Do you have any honorary degrees?

A. Yes, the Rensselaer Polytechnic Institute gave me an honorary degree of Doctor of Engineering. It also elected me a member of the honorary society of the Sigma Xi.

Q. Are you also a member of the American Society of Civil Engineers?

A. Yes, sir.

Q. You are an honorary member of that organization?

A. Yes, sir.

Q. What has been your engineering experience?

A. Fifty-two years as a hydraulic engineer.

Q. Will you give us some of the details?

A. For about three years I was in the Phillippine Islands in an engineering capacity mostly in conjunction with control of river and other work.

For two years I was with the New York State Barge Canal on design of locks and dams.

For sixteen years I was with the J. G. White Engineering Corporation of New York City on designs and valuations of hydro-electric projects. I started out as Designer to the Chief Engineer of Hydraulic Structures.

For eight years I was Vice President and Chief Engineer of the Power Corporation of New York and the Northern New York Utilities, located in Watertown, New York, now a part of the Niagara Mohawk Power Corporation, where I was in charge of engineering and construction of hydro-electric power plants and the valuation of hydro-electric power plants and storage reservoir sites.

For the past twenty-two years I have been consulting — hydraulic engineer on designs, construction and valuation of hydraulic properties.

Q. Tell us briefly what has been the nature of your experience.

A. I have worked on 132 dams. I have designed 36 of them; constructed 10 of them; consultation on design 96; consultation on construction 30.

With regard to hydro-electric power developments, I have designed 36 of them; constructed 14; consultation on design or construction 20, and reports on valuation 162.

I have been consultant on 58 flood control projects.

Q. In how many of our states, Dr. Creager, have your work carried you? In how many different states have you been engaged in this work?

A. It has carried me into 35 states.

Q. And into how many foreign countries?

A. Into 13 foreign countries.

Q. And you stated, I believe, that you had made 162 reports on valuations. Will you describe for us the nature of these valuations?

A. Yes, sir; All of these valuations included studies of water supply, cost of development, if not already developed, power available, transmission, market for power and all other pertinent items. They were, however, of several different types.

1. Valuations for land owners, to report on the value of their lands as water power sites.

2. Valuations for bankers, to report on the value of water power sites offered for sale.

3. Value of properties of one company taken over by another.

4. Studies to determine relative value of several owned sites to supply growing markets.

5. Valuation for tax purposes.

6. Valuations for rate making.

The first three of these items, namely, valuations for land owners, bankers and power companies, predominated in my experience and covered the entire subject including recommended reasonable purchase price.

Q. Were any of these properties purchased at the price which you recommended?

A. Yes, sir, about 1/3 of them, I should say.

Q. Have you ever testified before in technical cases, Doctor?

A. Yes.

Q. How many times?

A. 22 times.

Q. Did any of these cases have to do with hydro-electric sites?

A. They did.

Q. Will you tell us some of them?

A. *Land Owners v. U. S. Government* on value of site of the Grand Coulee Dam.

Southern States Power Company v. TVA on value of properties on Hiwassee River.

Tennessee Electric Company and others. I believe they called this "*Eighteen Companies*" v. *TVA* on the general TVA situation.

Niagara Falls Park and River Railway Company v. Canadian Government — Value of hydro-electric plant at Niagara Falls.

Grand River Hydro, in Oklahoma, v. Grand River Dam Authority — Valuation of site.

Montana Power Company v. Irrigation Users — Water rights and value of developments to community.

Roundout Paper Company v. City of New York. Value of site destroyed.

Q. Name some of the valuations you made on hydro-electric cases, on which you were engaged, and which were settled before going to trial.

A. *T.V.A. v. Hiwassee-Nolichucky Power Company; Daniels Company v. City of Baltimore; Georgia Power Company v. U. S. Government* — I believe that is all.

Q. Will you give us the names of some of your representative clients during your 22 years of consulting practice?

A. The Niagara Mohawk Power Corporation; The Aluminum Company of America; The Tennessee Valley Authority; Office of Production Management; Chief of Engineers, U. S. Army and a number of his district and division engineers; Los Angeles County Flood Control District; Ebasco Services, New York City; Governments of Mexico, Russia, Turkey and Portugal, and a large number of public utilities.

Q. Are you engaged as consultant on the St. Lawrence project and the New Niagara Falls Project?

A. Yes, sir.

Q. Have you been the author of any books on engineering?

A. Yes, sir.

Q. Tell us about them.

A. Author or co-author of three engineering books on hydro-electric developments and dams, and contributor of chapters on those subjects for seven others.

Q. Have you written any engineering articles?

A. Yes, sir; I have written a very large number of articles for engineering magazines and papers for engineering societies.

Q. Of what national engineering societies are you a member?

A. American Society of Civil Engineers; American Institute of Consulting Engineers; American Geophysical Union; International Association for Hydraulic Research; International Association for Soil Mechanics Research; International Committee on Large Dams.

Q. Have you been active in any of these societies?

A. Yes, sir.

Q. All right, give us that.

A. Principally in the American Society of Civil Engineers. For 10 years I have been a member of the Executive Committee of the Power Division and Chairman for three years. For six years I was a member of the Executive Committee of the Soil Mechanics and Foundation Division. I have been a chairman or member of a number of Committees for the National Society, including at present the Committee on Valuation of Power Plants, Design of Dams, and etc.

Q. Doctor Creager, are you listed in any of the "Who's Who"?

A. Yes, 13 of them.

Q. Are you familiar with the power situation in this part of the United States?

A. Yes, sir.

Q. Have you ever done any work on hydro-electric plants in this part of the country?

A. Yes, sir.

Q. Will you name some of them?

A. Consultation on Glenville, North Carolina; Consultation on Nantahala, North Carolina; Consultation on Fontana project, North Carolina; Design of Ocoee No. 1; Design of Ocoee No. 2; Design of Macon, Georgia; Design of Stevens Creek, near Augusta, Georgia; Design of Parr Shoals, near Parr, South Carolina; Design of Great Falls, near Rock Island, Tennessee; Valuation of Coosa River Project in Alabama; Valuation of Roanoke project in North Carolina; Valuation of Congaree project in South Carolina; Valuation of Saluda River Project in South Carolina; Valuation of Dial Project in Tennessee; Valuation of Powelson Project in North Carolina; and Valuation of Appalachian Project in North Carolina.

Q. Now, Doctor, getting down to the case at hand; are you familiar with the lands lying in the bed and on both sides of the Savannah River, required for an economic development of hydroelectric power on that river, with a dam and powerhouse located near Price's Island?

A. Yes, I studied the map that you presented for identification.

Q. Are you familiar with the lands of the Twin City Power Company in this action?

A. Yes. They are also shown on those exhibits.

Q. Have these lands a peculiar adaptability for water power development?

A. Yes.

Q. Are you familiar with the lands not owned by the Twin City Power Company in this action, which are also required for such development?

A. Yes, sir. They are also shown on those Exhibits.

* * *

Q. Dr. Creager, have you an opinion satisfactory to yourself as to the fair market value of the lands of the Twin City Power Company required for the development of water power at Price's Island as of June 19th or June 23, 1947, prior to the condemnation proceedings, if sold by one who was willing but not compelled to sell and bought by one who was willing to buy but not compelled to buy?

Commissioner McFADDEN: Subject to the objection, go ahead and answer the question.

A. I have made an opinion, based upon studies of my own, on testimony which is in, and which I understand will be placed in evidence, and on information that I have received from those, received from others which I consider reliable.

Mr. MILLER: Just a minute; we renew our objections, as to value coming out, on all grounds, and we think before the value comes out now that the witness should state and we should have the matters be considered and what he based this opinion on, the facts he received and other information from various and sundry

sources. We think, before the value comes out, that we should have the sources and data that he considered.

Commissioner McFADDEN: We have ruled that he may go ahead and answer the question and we will get to his basis and data later.

Q. What, in your opinion, was that fair market value?

A. \$1,600,000.00

Q. Does this value represent the value of all of the Twin City lands?

A. No, sir.

* * *

By Mr. ROBINSON:

Q. Dr. Creager, when we recessed last evening, I believe you had just given us your opinion of the fair market value of the Twin City Holdings at a \$1,600,000.00?

A. Yes, sir.

Q. In your studies of the value of the Twin City properties for power purposes, did you collaborate with other engineers in your studies?

A. Yes, sir.

Q. Whom?

A. Mr. Johnson and Mr. Courtney.

Q. Both of whom are expected to testify in this case?

A. I understand so.

Q. Now, did each of you do a portion of the work that makes up the study of it?

A. Part of it. Each of us did a portion of it, and the rest of it we collaborated.

Q. Did the portion of the work done by Mr. Johnson and Mr. Courtney you check yourself?

A. I checked it, not absolutely to the last figure, but I looked it over and it appeared very reasonable.

Q. Now, Mr. Creager, in arriving at this fair market value of the Twin City Lands being taken by the government, required for the development at this site, what factors did you take into consideration?

Mr. MILLER: May it please your Honors; I want it understood that I am not going to make any objection at this time to any of this, but I would like to have it understood that all grounds of my objection may be reserved and made at the end of the direct examination.

Mr. ROBINSON: That is entirely satisfactory unless it is with reference to the form of the question, or something of that character, which I could cure at the time.

Q. Go ahead, Mr. Creager.

A. When a piece of useful property is taken away from the owner he has lost something of value, and he should receive adequate compensation. This value can be measured in several ways. The most prominent being by his fair market value. The legal definition of the fair market value of the property, as I understand, and as I use it, is the price which a prudent, competent and well informed buyer, who is willing, but not compelled to buy, would pay to a prudent, competent and well informed owner, who is willing, but

not compelled to sell, both the buyer and the seller would take into consideration all the attendant and surrounding conditions and circumstances which affect the market value. These attendant and surrounding conditions and circumstances involve various factors. Never precisely alike in different cases. They very often cannot be reduced precisely to dollars and cents, but their effect is reflected in prices which had been paid under similar conditions for such properties.

Lands having a peculiar adaptability for water power use are of the nature of real estate and ultimately the fair market is necessarily determined by judgment on the part of the experienced and competent valuator, taking into account his past experience, and all the facts and factors affecting the particular property undergoing valuation.

Among the attendant and surrounding conditions and circumstances, which affect the fair market value of the respondent's properties, which have a peculiar adaptability for water power are:

1. Power and energy available at site.
2. Required capital outlay for the hydro installation, exclusive of the price for the estimated value of the property in question.
3. Required capital outlay for producing the equivalent of the hydro out-put from the next best source, assumed by me as from a steam plant.
4. Trends of construction costs of hydro and steam plants. It is my belief that costs of prevailing steam

plants was at that time increasing more rapidly than that for hydro.

5. Annual cost of producing the hydro.

6. Annual cost of production of equivalent steam out-put in steam plants.

7. Trend of annual cost. Having been installed most of the hydro annual cost is fixed for the future, but a large part of the steam cost change with the changing cost of labor and fuel. Indications are that the cost of these items would have increased in the future, giving a distinct advantage to the use of hydro.

8. The annual savings in the use of hydro as compared with steam.

9. The theoretical price which a willing buyer could pay for the company's properties and produce hydro power as cheap as that from steam.

10. Obtaining the necessary lands not owned by the Company.

11. Relative reliability and utility of hydro as compared with steam.

It is generally recognized that hydro plants have greater reliability and utility than steam plants. Some authorities say that hydro capacity should be compared with steam plant capacity which is ten per cent larger.

I have compared them on an even basis but have used the greater reliability of hydro as an intangible asset. Economic operation of electric generation system as supplied by steam plants can be aided greatly by hydro-plants with pondage because it supplies additional power capacity on extremely short notice to

meet unforeseen load demands. There are peculiar loads, or particular loads, to be carried by a steam plant for that plant to operate at the best heat rate, and thus produce energy with a minimum use of coal per unit out-put, and the use of hydro will allow the steam plant to do this. Due to their quick response hydro plants can take momentary load variations due to changes and demand, tie line switching operations and so forth, which a steam plant cannot do. Modern high pressure, high temperature steam plants are limited in the rate in which they can pick up loads. Hydro-plants can pick up loads at the rate of ten seconds for their total capacity. These advantages of hydro over steam cannot be valued in dollars and cents, but must be taken into consideration.

12. Possible competition; with the growing market there is no other hydro competition.

13. Future benefit to the site by possible future storage above the site.

The Duke Power Company's Calhoun Falls, or Middleton Project, or the Government's Hartwell Project would, if built, provide sufficient storage to materially increase dependable out-put of Price's Island.

14. Location and Character and rate of growth of market for power.

15. Legal and political aspects.

There are no legal or political aspects of which I am aware, which would lessen the value of the site.

16. Construction hazards for the hydro. The site is

reported to be ideal for the safe and efficient construction of the project.

17. Relative time required for development of the hydro site as compared with that required of the steam plant. Hydro takes about a year longer to build.

18. Length of required transmission lines. In this case, about five or six miles.

19. Possibility of combining these lands with other lands for water power development lower down on the river of the same or higher elevation of the reservoir flowage.

Q. Now, those are the factors, Dr. Creager, which you considered in arriving at your valuation in this case?

A. Yes, sir. I don't know as I have got them all, but I think I have got it pretty well covered.

Q. You had quite a list. Now, in making your appraisal of this undeveloped site, do you understand that the Twin City Power Company did not, at the time of taking, have a license from the Federal Power Commission, to construct a project on this site?

A. Yes, sir.

Q. In making your appraisal, did you understand that about 530 acres of land, needed to develop this site at an elevation of 283, was covered by agreements in favor of the Twin City Power Company or the Twin City Power Company of Georgia, which obligated Twin City Power Company to pay a price of \$20.00 per acre at the time of the development, and that this amount would have to be paid to the land owners at the time of the development?

A. Yes, sir.

Mr. MILLER: I want to object to that, and I want my objections preserved for the ruling of the court.

Commissioner McFADDEN: Note the objection, Mr. Reporter.

Q. Did you also give weight to the fact that some of these options were some 40 years old, and that the land owners would, or might insist on some higher value for this option property?

A. Yes, sir.

* * *

MR. R. C. JOHNSON, Sworn for the Defendant, Twin City Power Company, Testified as follows.

DIRECT EXAMINATION

By Mr. ROBINSON:

Q. Mr. Johnson, what is your full name and address?

A. Ruben Cumby Johnson, Columbia, South Carolina.

Q. What is your educational background, Mr. Johnson?

A. I graduated with a Degree in Bachelor of Science, Civil Engineer, in 1924, at Rice Institute, Houston, Texas, with subsequent graduate work in water power engineering at the University of Wisconsin.

Q. Tell us something of your experience in the Engineering field?

A. I was two years with United Engineers in Philadelphia, working on hydro-electric and steam plants, mostly hydro, including the Rocky River Development. I was at one time Professional—

The REPORTER: What was that? Speak louder, please.

The WITNESS: I was at one time professor of Civil Engineering at the University, and for a number of years taught civil engineering, and among the courses was water power engineering and hydraulics.

Q. What University was that?

A. University of South Carolina, Excuse me.

Q. All right.

A. I was at one time Assistant Professor of Hydraulic Engineering at the University of Tennessee.

During the World War II was instructor and head of the course in hydraulics at the United States Military Academy, West Point.

In 1928, I was with the Duke Power Company on the design of its River Bend Steam Plant.

In 1931, I was with the W. S. Lee Engineering Corporation of Charlotte on the design of the Beauharnois-St. Lawrence River Hydro plant.

In 1936, I was with the TVA as Assistant Hydraulic Engineer on the design of the Chickamaga Dam.

In 1938 to 1941 I was Consultant for Harza Engineering Company on several phases of the Santee-Cooper Hydro-electric Project, and in 1941 with the Harza Engineering Co. I was on the estimate of the cost of the hydro plant for the St. Lawrence River Barnhart Island Project.

Since that time, since 1946 I have been in general consultant work in the civil engineering field. I have skipped things that did not apply to this particular field of activity.

Q. Mr. Johnson, are you a member of any Societies?

A. Yes.

Q. Will you name some, please?

A. I am a Member of the American Society of Civil Engineers and have been a full member since 1935. I am also a life member of the American Concrete Institute.

Q. You are a registered Professional Engineer?

A. Yes, the State of South Carolina, State of Georgia, State of New York, and the National Board of Engineering Examiners.

Q. And I believe your business office is in Columbia, South Carolina?

A. At the present time, yes.

Q. Mr. Johnson, did you prepare certain of these exhibits, which we have offered for identification in this case?

A. A number of them were prepared under my directions, and some of them by me personally.

* * *

Q. Now, Mr. Johnson, did you also prepare some cost comparisons between (Exhibit 40) certain hydro-electric projects that have previously been constructed?

A. Yes, sir. I worked up a tabulation of some comparisons with other plants that appeared to be comparable.

Q. Now, will you give us the source of your information as contained on Exhibit 40?

A. If you will refer to Exhibit 40, all these plants are for the Santee River System because it compares more nearly to the Savannah River System.

Q. Is that the largest river for some distance north of Savannah on the Atlantic Seaboard?

A. Yes, the Santee is the largest in this area.

Q. Located in North and South Carolina?

A. Yes. The drainage area and the head —

Mr. MILLER: Before we go into this, I think it should be offered in evidence and I would like to object. As I understood the question, the question was asked previously as to the source of this information, and as I understand those sources are shown on page 2 of the exhibit.

Mr. ROBINSON: That's correct.

The WITNESS: That is correct. I believe that covers all the sources.

Mr. MILLER: Now, with respect to this exhibit, we stipulate, subject to the right to check, that the figures may be used in the same manner and to the same extent as though the original source of the figures recited were in the witness' hands. This exhibit, however, we object to it until it is made competent by evidence by the evidence of some witness who can explain and add to it in accordance with the purpose for which it was made maybe tendered, because from the information given on the exhibit itself the exhibit would not be competent or material or probative to any issue involved in this cause.

Mr. ROBINSON: We offer it subject to his objections.

Commissioner MCFADDEN: All right, it is introduced in evidence, marked Exhibit 40, subject to the stipulation as to the correctness and also subject to the

objections as to its competency being established by subsequent testimony.

Q. Now, Mr. Johnson, I want to ask you some questions about the exhibit. The first eight plants on the exhibit are plants of the Duke Power Company?

A. Yes, that's right.

Q. And the Buzzard Roost plant, I believe, is owned by Greenwood County?

A. Correct.

Q. And the Saluda plant by the South Carolina Electric & Gas Company?

A. That's correct.

Q. And the Santee-Cooper by the South Carolina Public Service Authority.

A. Yes, sir, that's correct.

Q. And they all are on the Santee River System, I believe you said?

A. Yes, sir.

Q. And in the second column you have put the date of construction, have you not?

A. Yes, sir, that's correct.

Q. Is that the date of the completion? I am not sure?

A. That is normally the year they went into operation.

Q. Now, in the next column you have placed, I believe the drainage area?

A. Yes, sir.

Q. In square miles?

A. Yes.

Q. And in the next column the head of the plant?

A. Yes, sir.

Q. And then the installed capacity in kilowatts, I believe?

A. Yes, sir.

Q. And the next is the total cost of the project?

A. Correct.

Q. And the next column is the cost of the land and land rights?

A. Yes, sir.

Q. And the next column is the average annual number of kilowatt hours in thousands generated at each of these plants?

A. Yes, that is correct, except in the case of Santee-Cooper. Instead of being a ten year average, there is an average, since the plant went into operation, which was less than ten years, about eight years, I believe I made a note of that somewhere.

Q. Now, the information contained in those columns is information you obtained from the sources indicated on page 2?

A. Yes, sir.

Q. Now, the last three columns are mathematical computations from that information?

A. Yes, which I made.

Q. Have you calculated the annual land cost per kilowatt installed capacity for these eleven plants?

A. Yes, sir.

Q. What does that amount to?

Mr. MILLER: Now, we object to that on the same grounds. The evidence produced so far as to the cost

of installed capacity, or any of these figures — I don't know the purpose of it, but as it now stands it could not be offered to any issue that is involved in this case, or that could be involved in this case.

Commissioner McFADDEN: It is admitted in evidence subject to that objection.

Q. What is that land cost per kilowatt installed capacity?

A. The land cost for the eleven plants averages \$44.30 per kilowatt installed capacity.

* * *

Q. Assuming a 50,000 kilowatt installed capacity, and assuming that the land cost would be on the same basis as the average of these eleven plants, what would the land cost be?

* * *

Commissioner McFADDEN: The objection is overruled, and it is admitted, subject to the objections heretofore stated.

* * *

Q. Go ahead, Mr. Johnson.

A. \$2,200,000.00

Q. On the same basis, if you use 68,000 kilowatt installed capacity, what would be the land cost?

A. \$3,000,000.00, in round numbers.

Q. Now, Mr. Johnson, will you take the next column, which is headed "Land cost per thousand annual kilowatt hours."

A. That is land cost for energy.

Q. And that averages what?

A. \$14.20, or \$14.00 in round numbers per thousand kilowatt hours.

Q. Now, my recollection this morning was that Mr. Creager estimated the energy out-put on a 60 foot dam at 200,000,000 kilowatt hours, is that correct?

A. That's correct.

Q. Is that also your estimate?

A. Also my estimate.

Q. Will you make computations on that basis and tell us what the land cost per thousand kilowatt hours would be?

A. \$2,800,000.00 would be the land cost for 200,000,000 kilowatt hours annually.

Q. Now of course, that would include all the land cost to date and not merely that owned by the Twin City Power Company?

A. Yes, that's correct, that includes the entire land cost on comparable basis.

Q. What is your third column?

A. The third column is the ratio of land cost to total cost for these plants.

Q. That works out at what percent?

A. It works out at 19.9 percent for the average.

Q. Assuming that is 20 percent and applying to the cost of a proposed development as developed in Mr. Creager's Cross Examination, which I believe for a 60 foot dam was \$14,630,000.00?

A. Nineteen point-nine percent of that would be around \$2,800,000.00, that is in round numbers

Q. If you applied it to the 70 foot dam cost of \$16,698,000.00, what would that be?

A. \$3,300,000.00.

Q. And if you applied it to the \$18,650,000.00 for the 80 foot dam, what would it be?

A. It would be \$3,700,000.00.

Q. Now, Mr. Johnson, are you familiar with the lands of the Twin City Power Company in this action which are being condemned by the government in this action?

A. Yes, sir.

Q. Those are the lands which have been shown on the deed book and on the maps which are in evidence?

A. Yes, sir.

* * *

RE-DIRECT EXAMINATION

By Mr. ROBINSON:

Q. Mr. Johnson, what, in your opinion, was the fair market value of these Twin City properties at the time they were condemned by the government in June, 1947, or a period subsequent to that date?

A. In my opinion the fair market value was the very minimum sum of a million and a half dollars.

Q. Now, in arriving at this fair market value, Mr. Johnson, do you agree with Dr. Creager as to the factors which are to be considered in determining the market value of the undeveloped water site?

A. Yes, sir, I agree with him, with the additional, I might say, this site is particularly free of any obstructions to the construction of a hydro plant.

Q. Just what do you mean by that?

A. Well, it is in a section of the country where you have all the favorable physical factors that you could hope to find, lack of railroads, lack of roads, lack of villages, lack of farm houses, lack of telephone lines and transmission lines to be removed.

Q. You don't have any cost attributed to the moving of utilities?

A. That's correct.

Q. Is it frequently the case in hydro sites, in developing sites, that railroads have to be moved considerably?

A. Yes, sir, they very frequently have to be moved at considerable expense, or bridges raised at considerable expense.

Q. Is that due largely to the fact that railroads frequently follow rivers and valleys?

A. They followed the contour, more or less, to save cutting and grading and things like that in the old days.

Q. Are any two water power sites absolutely comparable?

A. No, sir. I don't think you could find two in the whole world exactly alike.

Q. In addition to the matter of the absence of roads and railroads, what would you say were other favorable factors in connection with this Twin City Price Island site?

A. Well, its nearness to market, nearness to transmission. The time element, of course, was favorable at the time of taking. The general economical growth and power demand of this section of the country. The

shifting population tending to create additional demand. The physical features at the site. The ease in which the spillway could be built without undue excavation. The ease with which the dam could be constructed without undue expense, and the sharp drop in the bank of the stream on each side and the proper width practically. All of those factors add to the desirability of this particular site.

Q. Is the site capable of being developed at various heads, Mr. Johnson?

A. Yes, sir, you run it up for three, or even four different heads at intervals of ten feet you would not run into any difficulty whatever.

Q. What would those heads be?

A. 60, 70, 80 or even 90 feet, and if you go to 100 feet you may have to raise the bridge, but that would be all.

Q. A 100 feet, I believe, would reach approximately the tail waters of the Duke Power Company's Calhoun dam site, would it not?

A. Yes, sir, approximately.

Q. I believe that is an elevation of about 300?

A. Yes, sir.

Q. But a pool elevation up to an elevation of about 300 feet say would not experience any substantial cost in moving any roads, railroads and utilities?

A. That's correct, yes.

Q. In your opinion, Mr. Johnson, are the Twin City properties also useful in connection with the development of a project down stream from Price's Island?

A. Yes, sir, decidedly so at any of several locations. As a matter of fact, it is being used for that, as I understand, in the Clark Hill Project.

Q. Was that also the plan of the Savannah River Electric Company when it had a license in 1928 to build below and flood out the Twin City properties?

A. Yes, sir. I don't think the heads were identical, but they were substantially the same.

Q. Has the load of the utility systems in this area increased? Would the value of the development at Price's Island increase?

A. Yes, sir, decidedly. A plant of that type would be most advantageous to use on another system as the peaking plant, and if you recall the nature of the load curves from one of the exhibits you will recall that there were a number of peaks. As the steam generation increased, and more and more of that peak could be taken by another load from a hydro-electric plant, therefore, the economical advantage would be increased.

Q. Is this the exhibit you referred to? (handing exhibit to witness).

A. Yes.

Q. And did you compute the acreage that the Twin City would have to acquire to build to elevation 263 and 273 and 283?

A. Yes, sir.

Q. How did you do that?

A. We used the government supplied maps, the contours as being correct, the acreage, where they had them, and we checked them and in most cases found

that they were substantially correct, and we used those; and for the rest of it we used a planimeter and took off the areas by a planimeter, the areas outlined on D.S.R. 153 and 103, and also exhibit No. 24.

Q. Will you give us those acreages for each contour elevation?

Mr. MILLER: Now, I don't object to that if they will include the properties owned by the Twin City and what they control, options, flowage and all of that.

Q. In giving us the amount that the Twin City would have to acquire, are you considering that Twin City would not have to acquire the lands it owns in fee, the lands over which it has flowage rights and so-called options?

A. Yes, sir, That's correct.

Q. You are also considering that the Twin City would not have to acquire from anyone as to the bed of the stream?

A. That is correct. Now, you are speaking about a 60 foot dam, the area that would have to be acquired in order to develop it as a power site for a 60 foot dam?

Q. Yes.

A. 400 acres for a 60 foot dam would have to be acquired.

Q. All right, 70 foot dam?

A. 1250 acres.

Q. An 80 foot dam?

A. About 1850 acres — I beg your pardon, 2850 acres.

Q. Now, Mr. Johnson, you gave us a figure of 170 acres earlier today in commenting on the red portion on Exhibit No. 26, what is the difference between that computation and the 400 acres you gave for the 60 foot dam?

A. A 170 acres will carry the power pool to an elevation of 263. If you establish your power pool to elevation 263 you would still have to have more land above that elevation.

Q. And that represents a difference of —

A. — a difference between 170 acres and 400.

Q. Now, Mr. Johnson, in making your appraisal of a million and a half dollars as the market value of this site, did you understand that the Twin City Power Company did not, at the time of the condemnation, have a license from the Federal Power Commission?

A. Yes, sir, I understand that.

Q. Did you also understand that some 530 of these acres up to elevation 283 were under an agreement in favor of Twin City Power Company and Twin City Power Company of Georgia which were of some age and which the land owner might insist on some higher value?

A. Yes, sir.

Q. You took that factor into consideration?

A. Yes, sir.

* * *

By Mr. ROBINSON:

Q. Mr. Johnson, by examining you with reference to Exhibit 40, prior to giving your opinion, I am afraid

I may have created an erroneous understanding as to whether your opinion as to value of the Twin City Holdings was based on the comparisons shown on Exhibit 40. I would like for you to explain whether or not your opinion was so based?

A. No, sir, my opinion is not based on that comparison. That comparison was used as a check to see whether or not a price of that nature would be in line with the market value as gone before, and was found that the price as finally determined was somewhere in the neighborhood of over half of what had been paid before on these projects.

Mr. ROBINSON: The witness is with you.

* * *

MR. NEVILLE C. COURTNEY, Was next called as a witness for the Twin City Power Company, et al., and after having been first duly sworn, the truth, the whole truth and nothing but the truth to tell, testified as follows.

DIRECT EXAMINATION

By Mr. ROBINSON:

Q. Now, Mr. Courtney, will you give us your address and occupation?

A. I live in Brooklawn, New Jersey, Occupation, Consulting Hydro-electric Engineer.

Q. And your age?

A. 59.

Q. What is your educational background?

A. I completed two years at The Johns Hopkins University in Civil Engineering.

Q. What has been your experience?

A. I have had 38 years of general civil engineering practice, of which a little over 20 years has been in the hydro-electric or hydraulic engineering field. The first 11 years of my experience I was with mainly minor sub-professional positions that one usually holds. But beginning with the U.G.I. Contracting Company of Philadelphia, Pennsylvania, I spent eight years there with that company and its successors, The United Engineers Constructors, and mostly on hydraulic engineering work. The type of plant that I worked on there, I was Assistant Engineer, under the engineer in charge of all the hydro-electric work, was at Baldwinsville, New York, where we put in a conditional unit, generator —

Q. — was that steam or hydro?

A. That was hydro. I worked on the Rocky River Hydro-electric Pumped Storage Plant in Connecticut, which was quite a substantial development, a special development in the hydro-electric field. I worked on and helped develop under the supervision of the Chief Engineer of the Gorge Hydro-electric Plant in Vermont, and a number of other minor projects in the hydro-electric field, such as investigations from a contractor's standpoint of the building of the Safe Harbor hydro-electric development on the Susquehanna River. We did not design the job but they were large contractors and we developed what we thought to be the proper method of approach for construction.

Q. During that period, under whose supervision were you?

A. Under the supervision of Mr. Joel D. Justin. Part of the time while I was with those two companies I worked on the design of steam power plants. The last fifteen years of my hydro-electric and hydraulic experience was with Mr. Joel D. Justin, as an associate, or as a partner. During my period with him we built a plant for the Dickey Hydro-Electric Company, for the Dickey firm, built them a hydro-electric plant. We were consultants for the Philadelphia Electric Company, where we did practically all of their hydraulic work dealing with hydro-electric power on the Conowingo Plant on the Susquehanna River.

Q. Is that Conowingo one of the largest plants in the country?

A. It is.

Q. What is the approximately installed capacity?

A. 250,000 kilowatts. We made such studies as putting in additional units and so forth. We made a report on the water supply for the city area of Philadelphia, not hydro-electric, but for the purpose of finding what was the most advisable point to secure water for the City of Philadelphia from the mountains up in New York State, or from other high points in Pennsylvania.

We designed a plant down at Millville, New Jersey, for an intake structure to a hydro-electric unit. There were a number of other jobs of such nature of designing and building dams in which we acted many times for contractors as engineers. For instance on the

Quabbin Dam in Massachusetts, we worked with the Contractor to make up designs for the hog box and wood dredges to go on the pool for constructing that earth dam.

Under the firm of Justin & Courtney, I became associated with Mr. Justin, we worked on a number of projects, also including those after his death, and incidentally his son and I have continued the partnership since. We worked on the large storage reservoir for the Pacific Gas & Electric Company out in California as a method of getting additional storage for all the hydro-electric units on the Big Feather River. Since his death I have continued that work with the Pacific Gas. I designed an earth dam for the City of Chester in southwest Pennsylvania with four other engineers in the City of Philadelphia which was used as a water supply project. It involved an earth dam with taintor gates.

We designed a job for Camden County, New Jersey, for a special type of project in which we built a dam to permit the polluted waters of the Delaware River from proceeding up stream by having gates to let the waters move up so that the waters up stream would always be fresh and be suitable for recreation and bathing and fishing and so forth.

We designed two dams for the township of Morristown, New Jersey, in which the upstream part was used for recreational purposes and not power purposes.

We were engineers on the Schuylkill River Project in Pennsylvania, which was a \$30,000,000.00 project, in

which our partnership was to design all the permanent dams that was necessary on that project for the purpose of de-silting or catching the silt that came down from the coal mines so that we could pump it by dredges from those reservoirs and put it upon high ground in the adjacent sections of the river. That work was continued for about two years and a half after Mr. Justin's death, and we have completed all those dams in that time. There are a number of other minor, quite a number of other minor projects, but I have simply given you the major ones.

In this section of the country, I might say, there are four projects that we did quite extensive work on. One of them was the Saluda dam, not the original dam. We did not get in on that until about 1941 when we were employed by the Engineers of the South Carolina Gas & Electric Company, and we designed — I made the flood calculations under Mr. Justin's supervision. I made a study of the rainfall, the advisability of installing additional spillway capacity at that dam, and also we designed a method of strengthening the dam by taking the rock from the spillway excavation and placing it on the down stream slope to make the dam still more stable, and by that result permitting the height of the water in the Saluda reservoir to be raised and thereby securing more capacity for that particular electric company.

About five years later, on the same project, or the same general project, we made additional studies in connection with Gilbert Associates of Reading, Pa., for

a low head project immediately down stream from the big Saluda dam for the purpose of securing additional energy and capacity, particularly with respect to securing a license from the Federal Power Commission.

We were the engineers, hired by the local engineers, on the Buzzard's Roost Hydro Project, above the Saluda Project, where we did some work for them on the design of the stilling basin and retaining walls of the dam.

I worked with the firm of Albright & Friel of Philadelphia to determine the advisable source of water supply for the City of Winston-Salem in North Carolina. They were the Sanitary Water Supply Engineers for that firm, and I was employed as a consultant from that standpoint.

Q. Have you done any work in connection with valuation of projects?

A. While the Grand Hydro, or just before the Grand Hydro case was brought before the courts, I worked under the supervision of Mr. Joel D. Justin for a number of months in assisting him in determining the value, or what we thought was the value of the Grand River Hydro Project, known as Pensacola also, near Vinita, Oklahoma.

We were also employed by the Tennessee Valley Authority in connection with the Powelson case to determine the value of four projects in Southeastern Tennessee, or Northwestern North Carolina for report to them as to what we thought the value of that prop-

erty was. We made that report, but neither Mr. Justin nor I were called upon to testify in the case.

In the recent past the firm of Justin & Courtney have had occasion to determine the valuation of certain losses to the hydro-electric plants, which the Senior Mr. Joel D. Justin and I designed in 1937 for the Dickey plant in Maryland. We were acting for the Dickey people and made our report to the Dickey people, and the results of our report were accepted by the City of Baltimore without the annual loss, I should say, was accepted by the City of Baltimore as a basis of settlement which the city has agreed to.

Q. Now, Mr. Courtney, in approaching a study of the Twin City Power Company, the Price Island proposed development and dam site and lands here, what material have you had available for your study?

A. I had available the various, what is generally known, as the 308 reports. I had the opportunity to look at the Definite Project Report on the Clark Hill Project on the Savannah River.

Q. The Clark Hill Project?

A. Yes, the Clark Hill Project. I had the duration curve, which, I understand, was prepared for the monthly duration curve, which was prepared by the Army Engineers on the flow, their calculated flow, at Price's Island. I had the various loads of the power companies, principally, three, the Dukes, The South Carolina and the Southern Companies, or Georgia, as we call it, which I secured from the Federal Power Commission, and I had the benefit of the previous

studies made on the Twin City Project, including such things as the preliminary permit, which was granted by the Federal Power Commission to the Twin City Company. I also had the maps of the various counties that you have heard submitted here yesterday. I had the benefit of looking at the old Amburson drawings that were prepared back — the ones that I saw were prepared in 1909. I think they were prepared first on one head 60, and then later that head was increased to a higher head. I had the benefit of generally other miscellaneous information that was either available in a general way that had been submitted, and other pertinent information that I was able to secure. One particular report was the report of the Southeastern Power Market Survey, made by the Federal Power Commission, and dated in March of 1947, particularly applying to the regions involved in Georgia and South Carolina.

Q. I believe the pertinent portions of that report have been offered in evidence, have they not?

A. I don't think so?

Q. You don't think so?

A. No sir. I merely had reference to it for my studies.

Q. Now, I assume that you also have the general engineering information that is available to engineers on prices and things of that kind?

A. Yes, sir.

Q. Now, in approaching this study of the best development of this site, did you consider a single head, or more than one?

A. I considered more than one head.

Q. What heads did you consider as being an economical development?

A. I considered anything from 60 to 80 or 90 foot head.

Q. Now, in approaching — First, I will ask you: did you find that the Twin City site at Price's Island was suitable for development for water power purposes?

A. Yes, very favorable.

Q. Did you find it favorable at all of these heads that you mentioned?

A. I found that it could be developed at any of those heads. But, if I may add, I find from my calculations so far that the range of the upper head makes the most valuable site for a hydro-electric project.

Q. Are these Twin City properties also useful for water power purposes in connection with a downstream project?

A. Oh, very much so. These properties occupy a very key position in the whole set up, not only from the vertical standpoint at Twin City, but they are a very vital part for any development at any one of the proposed sites that might have been built downstream. I think there were three in total, two of them between Price's Island and Clark Hill, and also Clark Hill.

Q. It is actually a part of the Clark Hill Project?

A. Oh, yes.

Q. Now, you spoke of a vertical position, what do you mean by that?

A. Well, I mean a 60, 70, 80, 90 or even a 100 foot head.

Q. What is the fall of the river between Price's Island and Chamberlain's Ferry, approximately?

A. The fall of the river?

Q. Yes, on the Twin City Properties?

A. You speaking of the fall of the river now?

Q. Yes, on the Twin City's lands?

A. It would run probably 60, 70, 80 or 90 feet.

Q. At Chamberlain's Ferry, beginning at Chamberlain's Ferry, which is approximately the upper end of the Twin City Properties, what would it be?

A. I would say 60 feet. I would have to look at Chamberlain map to verify that, but I think it is approximately 60 feet.

Q. Sixty feet?

A. Yes, sir.

Q. Now, what factors are taken into consideration by you in arriving at the market value of the Twin City Properties involved in this case?

A. The head, and the flow condition, the amount of water that's in the stream, the market in this particular section, how the market is growing and has grown, and the possibility for its continued growth. I would compare that with what we could get from any one of these different heights of development, I would compare that with the next best source of power supply, which would be steam, to see if it was economical to develop it at any height with the purpose of trying

to find somewhere near the optimum height that it should be developed.

Q. Anything else?

A. I would consider whether or not there were any railroads in the valley, or rather it would have a great weight in determining that value. In this particular case there are no railroads whatever running up the valley. There are no bridges, until you reach the bottom of the girder of the bridge at elevation 326.

Q. That is the bridge between Lincolntown, Georgia, and McCormick, South Carolina?

A. That's right. There are no highways to be moved. Of course, there may be a few roads that people go down to fish, but I mean real highways. There are no transmission lines. There is practically no improved property on the site, and there is one big feature that I would consider is the fact that the Twin City people have assembled this land into one enormous block of acreage, in which one owner owns a very, very large percentage of the entire acreage that would be required to make this development. The nearness of the transmission lines is also a factor. About five miles, approximately five miles west of Price's Island is a 110,000 volt line of the Georgia Power Company. The railroads for bringing in the material, generators, turbines and equipment and so forth are extremely close at Modoc, being approximately two miles. The access lands, or lands necessary for the railroad owned by the Twin City Power Company. It even has been graded and made for a road and at one time a road was con-

structed, as I understand. The site gives good storage for development. There is a strong possibility that at sometime in the future that upstream developments would have been constructed, such as the Calhoun Falls, or Hartwell, which the storage in those reservoirs would very materially aid any development at any head at Twin City. I think that generally covers it.

Q. After giving consideration to these factors and studying the lands of the Twin City Power Company, have you formed an opinion as to the fair market value of its lands required for the development of this water power as of June, 1947, prior to the condemnation proceedings, if sold by one who was willing but not compelled to sell, and bought by one who was willing, but not compelled to buy?

A. Yes, sir.

Q. What is that fair market value, Mr. Courtney?

Mr. MILLER: I think it is perfectly apparent that he is using the same factors and the same basis as the witness, Dr. Creager, on yesterday, and my general objection runs to the same line and I make the same objections, of course, and I will reserve all of it until the motion to strike after the cross examination, which I shall urge at that time. I don't believe it is necessary for me to restate it all over again that I am objecting to the power value. I assume that the Court is going to overrule it at this time anyway.

Commissioner McFADDEN: We will admit this evidence, subject to Mr. Miller's general objection, and

all specific objections to similar testimony offered by Dr. Creager and by Mr. Johnson.

Q. What is that value, Mr. Courtney?

A. At least \$1,900,000.00.

Q. In arriving at that value, did you understand that the Twin City Power Company had no Federal Power Commission license?

A. Yes, sir.

Q. Did you understand that in arriving at that value that the Twin City Power Company did not rely upon any power of condemnation?

A. Yes, none whatever.

Q. And did you understand, in arriving at that value, that there was some land necessary for a 60 foot head or a higher head which the Twin City Power Company did not own and did not control?

A. Yes, sir.

Q. In arriving at that value, did you understand —

MR. MILLER: — May it please the Court, I think these witnesses, all of them, are generally qualified, and I want to say that any objection that I have made is not addressed to any general qualification of any of these witnesses who have taken the stand, but I don't think this witness can be cross examined about lands by counsel, about the values, and I object to him asking leading questions.

Commissioner McFADDEN: Yes, those questions are rather leading, Mr. Robinson.

MR. ROBINSON: Well, I will phrase the questions a little different.

Q. Mr. Courtney, in arriving at your conclusion, with reference to the Twin City lands, did you have any information about the type of ownership and control of the Twin City Power Company of these lands?

A. Well, yes, I understood there were some in there with options, possible options.

Q. Did you understand anything with regard to the age of these options?

A. They were quite old, relatively.

Q. In arriving at your value, did you give any consideration to the age of those options?

A. Well, I gave consideration but it didn't affect my price that I arrived at.

Q. Now, would you be in position to compare this hydro-electric site at Price's Island with other undeveloped sites with which you are familiar within the eastern part of the United States?

A. Compare it with other sites?

Q. I will ask you this first, are any two sites absolutely comparable?

A. No, sir.

Q. With reference to favorable or unfavorable conditions, how would you rate this site as compared to other sites with which you are familiar with?

A. I would rate this site as extremely favorable. I don't know as I have ever seen a site where it had so — well there were no railroads, no transmission lines, no highways, no bridges within a reasonable elevation of that development. It is almost perfect from that standpoint. The flow of the river is good. You have

good drainage area. It rises in the Smokey Mountains, and the run off is good, it is about one and forty five hundred second foot per square mile. Everything points to an extra fine development.

Q. Now, you said a few minutes ago that you did some work on Buzzard Roost Project on the Saluda River in South Carolina, which I believe is a 60 foot head, approximately?

A. I do not remember the exact head, but I do know that it is somewhere in that neighborhood.

Q. Is the stream flow there anything like it is at Price's Island?

A. No, sir.

* * *

COST COMPARISONS OF EXISTING HYDRO DEVELOPMENTS

Item No.	Plant, River and Date Built	Drainage Area, Sq. Mi. ¹	Head Feet. ¹	KW Cap. ²	Total Cost ²	Cost of Land and Land Rights ²	Annual Energy Thousand KW Hrs. 10 Yr. Aver. (1941-50) ³	Land Cost Per KW Hours	Land Cost Annual Per 1,000 KW Hours	Ratio of Land Cost to Total Cost (Per Cent)
1.	Bridgewater, Catawba, N. C., 1919	377	135	20,000	\$ 6,931,000	\$ 1,551,800	51,198	77.50	30.20	22.4
2.	Rhodiss, Catawba, N. C., 1925	1,050	60	25,500	2,903,000	1,024,400	57,634	39.10	17.70	38.4
3.	Oxford, Catawba, N. C., 1928	1,250	90	36,000	4,567,000	1,911,000	98,197	53.00	19.50	41.6
4.	Lookout Shoals, Catawba, N. C. 1915	1,410	78	18,720	1,683,311	186,727	82,838	9.90	2.25	11.0
5.	Mt. Island, Catawba, N. C., 1923	1,800	78	60,000	5,110,000	1,169,300	104,105	19.40	11.20	22.8
6.	Catawba, Catawba, S. C., 1904	3,085	70	60,000	8,033,370	3,874,275	141,935	64.50	27.30	48.2
7.	Fishing Creek, Catawba, S. C., 1916	3,085	61	30,000	3,142,304	536,227	140,315	17.80	3.83	17.0
8.	Waterce, Catawba, S. C., 1919	4,940	78	56,000	6,279,600	1,296,600	226,988	23.10	5.70	20.6
Sub-Total 8 Plants Above				306,220	38,649,585	11,550,329	903,210	37.70	12.75	29.9
Average (weighted) of 8 Plants Above										
9.	Buzzards Roost, Saluda, 1940	1,100	60	15,000	5,130,239	793,854	50,034	52.80	15.80	15.4
10.	Saluda, Saluda, 1931	2,400	188	130,000	21,508,868	5,605,797	257,419	43.20	21.80	26.0
11.	Santee-Cooper, Santee, 1942	14,700	70	132,615	65,000,000	7,898,496	606,602	59.50	13.00	12.1
Total 11 Plants Above				583,835	\$130,288,692	\$25,848,476	1,817,265	44.30	14.20	19.9
Average (weighted) of 11 plants above.										

¹ From H.D. 96, 73rd Congress, 1st Session.

² As reported to FPC Form No. 1 (1950), item 1, 2, 3, 5, 8; 1949 item 4, 6, 7, 10; 1952 item 9). Except cost data on Santee-Cooper from S. C. P.S.A.

³ From FPC Form 12, (1941-1950), except item 11, 1943-50.

Pertinent Excerpts from Ex. D-I-144, the Testimony of the Owner's Valuation Witnesses in the Grand Hydro Litigation.

JOEL D. JUSTIN, called on behalf of defendant, Grand Hydro, in chief, after having been duly sworn on oath, on direct examination testified as follows, to wit

* * *

Q. Now, as the result of that contact will you just tell the gentlemen of the jury here what investigation and what work, and what study you did, to determine the value of this dam site over there at Pensacola?

A. Well, I first visited the dam site, which, at that time was in the course of construction, and they had a number of the foundations for the braces open at the time, and I got an excellent view of the foundation conditions there, and I went around the top and observed everything that I could. Then, later in 1940, I came back and I visited the structure again. At that time it was completed, the project completed, and I also saw it from the air, went up the lake and observed the conditions, and I got a pretty good idea of what sort of a project it was, and what the conditions were, and I studied all of the available engineering data that I could get a hold of as to the project, and there was a considerable mass of data that was not very clear, and I got a pretty good line on it.

Q. Now, Mr. Justin, in connection with the engineering report that you refer to, I want to ask you if it is in the province of the United States government, or the chief engineer's office, to publish those studies of the

various streams of the United States — are such publications made by the government.

A. They are made usually for some particular purpose, like the flood control committee, or something like that that they put in the report of the chief engineer as a part of the same document. Of course, in addition to that, there are publications on stream values by the Geographical Survey, and the water supply papers.

Q. Do you remember what purpose, the governmental purpose of the publications on the Grand River was?

A. The purpose I would say, off hand was whether or not the project was feasible.

Q. The water power project?

A. The water power project and flood control, water supply and flood control — water power and flood control.

Q. From your study of those reports, and from your investigation of this dam site, did you consider you were possessed of sufficient information to make an appraisal of its market value?

A. Yes, sir.

Q. Now, so that the jury may visualize the situation, can you tell us, (indicating on map) the line up there shown on this map under the blue line, and the line immediately next to it, the blue line being the axis of the dam, was that physically adaptable as a dam site?

A. It certainly was.

Q. Did your investigation disclose that that land constituting that dam site, had a special value for dam site purposes, or had any such value?

A. It had a value.

Q. Now, will you please tell the jury, Mr. Justin, what consideration, or what fact, caused you to arrive at that conclusion that it did have a special value and an advantageous situation for dam site purposes?

A. I considered the adaptability and the relative advantage of the site, and the values of other sites in comparison of which I am familiar; the available stream flow; the power and energy — those are all items; the storage capacity at the site, the conditions in the territory, and effect of the proposed development, and the feasibility of the projects downstream.

I might explain that: You build one project up to the watershed and you store water there; you utilize that water to make your power, you let that water flow downstream; now, it is being stored, it is stored the way you want it, and it can be used by other plants in the future downstream, plants which may be built in some cases — though, in this instance — in this case, they are not in existence; the adaptability of the project in the installation of additional capacity at a later date.

My experience is that when you have a large reservoir, it is always feasible to use it, because later on when the load rose materially you can put in more capacity, and because hydro capacity is very advantageous for that purpose.

I considered the market conditions covering the utilization of the power and energy which the project might produce, the breakdown interference that might be offered by a steam system, and the advantages of a large reservoir. Now, you have a large reservoir, and in case you have a breakdown in the steam plant in the system, why, you can just pull on that reservoir for waters on hand until your steam plant has been repaired, and they can carry their proper proportion of the load.

Q. Something that would be there if you had a broken transmission line, and the hydro would be in a position to aid in order not to stop service from the steam line?

A. That is true; but, of course, if you had a break in the transmission lines, there isn't really an advantage because the break could be in the hydro.

Q. What I mean is, that the hydro is instantly available to serve what it is hooked up with?

A. That is true, it is instantly available.

Q. Now, Mr. Justin, I might ask you two or three questions about those subjects you mentioned. Did you find the market condition favorable for this dam site development?

A. I did.

Q. Did you find it would have adequate storage to serve that market according to its needs?

A. It was.

Mr. MARSHALL: I think the Authority is going to object to the indefinite sort of questions propounded, and the indefinite sort of answers which the witness gives.

Reference is made to the project, what kind, what size, what capacity is left entirely out of consideration in this testimony. I submit, your Honor, that counsel and the witness ought to be directed to confine his questions, and his answers respectively to a certain definite time, so that we may be able to understand what the effect of the witness' testimony is, and lay a proper predicate for cross-examination.

By Mr. FOWLER:

Q. Now, Mr. Justin —

Mr. MARSHALL: (Interrupting) Exception.

By Mr. FOWLER:

Q. (Continuing) You have made an appraisal of this Pensacola dam site, owned by Grand Hydro. Did you make that appraisal and arrive at your conclusion as to the value despite the fact that the Grand Hydro did not own all of the reservoir land?

A. I did.

Q. Did you make that appraisal and arrive at your estimate of value of this dam site — of these dam site lands, without regard to whether Grand Hydro possessed any permit or license from any governmental authority to build a dam on the river?

A. I did.

Q. Did you appraise it as an undeveloped dam site?

A. Appraised it as an undeveloped dam site.

Q. Now, I will ask you, Mr. Justin, if you formed an opinion as to the fair cash market value of those lands constituting the Pensacola dam site, as of date of January 1938, to January 1940, such value to be that

which the land would have in a transaction between a willing buyer and a land seller, taking into consideration all the uses of these lands constituting the dam site to which they could be reasonably adapted, and could within reason be applied at the time I have indicated, excluding the proposed or existing improvements of the Grand River dam. I am sure you have formed an opinion of that kind?

MR. MARSHALL: That is objected to, your Honor, for the reason there is no way to determine from counsel's question as to whether it was a dam for stock water, a dam for hydroelectric power purposes, or a dam for flood control, or what its capacity was, and many facts are left entirely out of consideration of this witness' testimony, which ought to be set forth as legitimate purposes, and as a foundation for his opinion.

MR. FOWLER: Your Honor, as I understand, Mr. Marshall is suggesting that that is a part of the cross-examination.

MR. MARSHALL: No, sir.

THE COURT: Overruled.

MR. MARSHALL: Exception.

By MR. FOWLER:

Q. You say you have formed an opinion as to the fair cash market value of the property I have talked about as to that time?

A. I have.

Q. Now, Mr. Justin, will you tell the jury what that opinion is?

MR. MARSHALL: We object, your Honor.

The COURT: You object to the question?

Mr. MARSHALL: Yes, sir.

The COURT: Overruled.

Mr. MARSHALL: Would your Honor permit me to state my objection?

The COURT: Yes.

Mr. MARSHALL: I am giving a copy of it to the reporter. It is more or less voluminous and divided into three separate and distinct parts, and we are prepared to have the Court consider the matters of this objection. (To the reporter) Frank, will you copy this into the transcript?

The REPORTER: Yes, sir, I will copy it.

(A copy of which said objection handed to the reporter, is as follows, to wit:)

Plaintiff objects to the question because:

1. That Grand-Hydro did not possess a valid permit or license to apply the waters of Grand River to any beneficial use, because it has not been shown that an adjudication of water rights in Grand River was had prior to the time of the granting of its permit by the State Conservation Commission as required by the laws of Oklahoma and as declared by *Owens v Snyder*, 52 Okla. 772, 152 P. 833, and *Gay v. Hicks*, 33 Okla. 675, 124 P. 1070, and as required by the Water Code of the State;

2. That Grand-Hydro's water use permit is not shown to have been kept in good standing because it is not established that it constructed one-fifth of the

works called for thereby within two years from the date of said permit's issuance ;

3. That it has not been shown that Grand-Hydro had any right, under its permit from the State Conservation Commission, to construct any dam on the so-called dam-site tract in question ;

4. Nor does it appear that Grand-Hydro secured any amendment to its permit allowing it to (1) defer the commencement and completion of the construction of one-fifth of its proposed works within two years from the date of issuance of said permit or (2) to construct a dam or dam improvements on the dam-site tract in question.

Plaintiff objects, additionally but separately, to the question because :

It has not been shown that Grand-Hydro could, as of the date of the "taking" of the dam-site lands in question, have been reasonably expected to acquire, within a reasonable time, the lands necessary to be combined with the alleged dam-site lands in order to complete the control, for project purposes, of the whole of the lands necessary to enable the dam-site tract in question to be utilized for dam-site purposes without exercising the power of eminent domain.

Plaintiff objects, additionally but separately, to the question because :

Grand River, being an immediate tributary of the Arkansas River, a federally adjudicated navigable stream of the United States, and a generally recognized navigable stream below the mouth of Grand

River, is within the jurisdiction of Congress under the Constitution of the United States to regulate and control in behalf of the interests of interstate and foreign commerce, it has not been shown that Grand-Hydro, prior to the date of taking of the dam-site lands in question:

1. Filed a declaration of intention to build any dam at said dam-site, or at any location on Grand River, as required by the Federal Power Act;

2. Filed, or secured the granting of, an application for a preliminary permit to construct a dam at the dam-site in question;

3. Secured a Federal Power license to construct any dam at the dam-site in question;

4. Filed any application for such a Federal Power license;

5. That the Federal Power Commission had ever found that the building of such a dam structure as that described in the question propounded and in the testimony given concerning the adaptability of said dam-site would not affect the interests of interstate /or foreign commerce.

* * *

MR. MARSHALL: We again object to the question and the answer sought to be elicited as incompetent, irrelevant, and immaterial, and particularly because the record discloses clearly and affirmatively that the Grand Hydro did not at the time those lands were taken, or at any time prior thereto, have any permit or license from the Conservation Commission of the

State of Oklahoma to construct any dam or other river improvements for the purpose of generating hydroelectric energy on Grand River upon the dam site lands in question comprising, according to Grand Hydro's contention, some 417 acres.

The COURT: Overruled.

Mr. MARSHALL: Exception.

The COURT: Call the jury in.

(At this time the jury is duly returned into open court, whereupon the trial of said cause proceeds as follows, to wit):

By Mr. FOWLER:

Q. Mr. Justin, just before recess I had asked you if you had formed an opinion as to the fair cash market value of those lands constituting the Pensacola dam site, and the rest of the question, as you will recall it, and I believe you said you had formed an opinion as to the fair cash market value. Now, I will —

A. (Interrupting) I have.

Q. (Continuing) I will ask you to tell the jury what that opinion is.

Mr. MARSHALL: Your Honor please, we renew our objection.

The COURT: Overruled.

Mr. MARSHALL: Exception.

A. In my opinion the fair market value of the dam is over \$850,000.

* * *

CROSS EXAMINATION

By Mr. DAVIDSON:

* * *

Q. Mr. Justin, you have never lived in Oklahoma, have you?

A. No, sir.

Q. And you never did go over the Grand River dam project before it started, did you?

A. Not before any construction was started.

Q. You are not familiar with the sales of land in the Grand River dam valley, are you?

A. No, sir.

Q. And never have been?

A. That's right.

Q. And you don't know what any of that land in that valley ever sold for, do you?

A. That's right, of my own knowledge.

Q. Of your own knowledge. You have had no experience in buying and selling land in Oklahoma?

A. No, I am not an expert on land, just on dam sites.

Q. And you never engaged in buying and selling land in the Grand River valley, did you?

A. No, sir.

Q. You are not acquainted with the status of the titles of the land involved in the Grand River dam project, were you?

A. No sir.

Q. You don't know whether there was any state owned land in that area?

A. No, sir.

Q. And you don't know whether there was any federal owned land in that area, do you?

A. No, sir.

Q. And you don't know whether there was any restricted Indian land in that area?

A. No, sir.

Q. And you don't know whether there was any tribal cemeteries in that area or not, do you?

A. Well, I think it is probable that there are cemeteries, because I never saw a project yet that didn't have some cemeteries.

Q. That is just a guess on your part that this one did have, isn't it?

A. It is a little more than a guess. Any place that has been settled for any length of time is bound to have cemeteries in a scope of fifty thousand acres.

Q. You don't know about the number of miles of railroad that will have to be re-located, do you — did you?

A. Except from the maps.

Q. And you don't know anything about the character of the road beds?

A. Well, in general I do. I have seen plenty of those road beds. I don't know what sort of railroads there are.

Q. And you don't know how many bridges would have to be relocated?

A. No sir, not of my own knowledge.

Q. And you don't know how many state, federal and county roads have to be relocated, do you?

A. Well, I had maps that showed that there was a considerable number of them.

Q. You don't know anything about the number of towns that had to be relocated, did you?

A. Yes — now, right there, of course those things are shown by the topographic maps. You can see them right on there.

Q. And you don't know anything about the oil pipe lines and gas pipe lines that have to be removed, do you?

A. Only in the same way.

Q. Just from the map?

A. Just from the map and from information from the engineers that were working on the project.

Q. Did the map show the location of the pipe lines?

A. I can't be sure whether it did or not now.

Q. You don't know anything about the number of telephone or utility lines that had to be removed, do you?

A. Only from the work of the other engineers that were working on their construction and moves.

Q. You don't know anything about the acreage of Indian tribal lands that had to be acquired, did you?

A. No, I didn't, but they have all those difficulties on their projects, you know.

Q. Well, you always have to use the power of eminent domain to get them, don't you?

A. No, sir

Q. Do you know of any project that has been accepted that didn't resort to the power of eminent domain?

Mr. FOWLER: We object to that, your Honor please.

The COURT: Overruled.

Mr. FOWLER: Exception.

A. I have known of such projects.

By Mr. DAVIDSON:

Q. It is rare instance, isn't it?

A. It is not overly rare.

Q. In nearly all of those cases the power of eminent domain is used to unite the land under one ownership, isn't it?

Mr. HUDSON: Your Honor please, may we have an objection to all of this line of testimony and the same ruling?

The COURT: Yes, sir.

A. The power of eminent domain as I conceive it, merely means that the owner is entitled to compensation. They can get this land by other means; they can condemn it, and then the value, the fair value of that land, is assessed by the court. That is what I think it means.

Mr. DAVIDSON: That's right.

A. And, of course, that power is possessed by almost all public utilities.

Q. And they use it too, don't they?

A. They sometimes use it, but I know of a great many companies that have a policy to never use it.

Q. Did you know at the time of the taking of these lands involved in this case, the Grand River Dam Authority had already acquired approximately 29,000 acres of reservoir land in this reservoir, and that under the law of the creation of the Grand River Dam Authority that land could not be alienated?

A. I didn't know anything about that.

Mr. HUDSON: If the Court please, we object to the question as incompetent, irrelevant, and immaterial.

Mr. DAVIDSON: Under provision of the enabling act, if your Honor please, prohibits the Authority of disposing of any land —

The COURT: (Interrupting) That is a legal question.

Mr. MARSHALL: That is one of the grounds of the objection that has been made.

The COURT: Well, the objection will be sustained, except that part of it — (hesitating)

Mr. DAVIDSON: We offer to show by this witness, if he were permitted to answer, that he would say that he didn't know.

Mr. HUDSON: We object to the offer as incompetent, irrelevant and immaterial, and one that has been passed right squarely on by the Supreme Court.

The COURT: A part of that question is all right.

Mr. DAVIDSON: May I put the question this way, your Honor —

Q. Mr. Justin, did you know that at the time the Grand River Dam Authority took the lands involved in this case, that it had already acquired and owned approximately 29,000 acres of reservoir lands in the basin of the reservoir created by the dam?

Mr. HUDSON: Incompetent, irrelevant, and immaterial, and it is overruled by the opinion in this case.

The COURT: Overruled.

Mr. HUDSON: Exception.

By Mr. DAVIDSON:

Q. You know that?

A. No, sir, except by hearsay.

Mr. HUDSON: We move to strike the answer of the witness as incompetent, irrelevant, and immaterial, and prejudicial.

The COURT: Overruled.

Mr. HUDSON: Exception.

By Mr. DAVIDSON:

Q. You are not a lawyer, are you, Mr. Justin?

A. No, sir, I know nothing about the law.

Q. Now, I believe you said, that you gave your opinion as to the fair market value of this dam site without giving any consideration to the fact that the Grand Hydro had not united and acquired under its ownership all of the lands necessary for the project, is that true?

A. No, sir.

Q. You did take that into consideration?

A. I took into consideration the fact that they owned the dam site, but might not have owned all of the reservoir lands. My answer was regardless of whether they did or did not.

Q. Did you give any consideration to the fact as to whether or not they had acquired all of the overflow land?

A. That's right, it is absolutely independent.

Q. Did you give any consideration to the question of whether or not there was any reasonable probability that the Grand Hydro, or the grantee of the Grand Hydro, could, within a reasonable time acquire and unite under one ownership all of the lands necessary

to constitute the building of the project, so that the dam site could be utilized for dam site purposes?

MR. HUDSON: If the Court please, the defendant objects to that portion of the question which relates to the proposition of whether or not the condemnee could unite it; that would depend upon what the purchaser could do and not the condemnee.

THE COURT: (To the reporter) Read the question, Mr. Reporter.

(At this time the question is duly read to the Court by the reporter.)

THE COURT: Overruled.

MR. HUDSON: Exception.

THE WITNESS: The grantee means also anybody that they might sell it to?

MR. DAVIDSON: That's right.

A. They might sell it to anybody?

Q. Anyone other than the Grand River Dam Authority.

A. That's right.

Q. You did take that into consideration, did you?

A. The Grand River Dam Authority is a public body; that is the owner of the project now.

Q. Anyway, you took that into consideration, did you.?

A. Yes, sir.

Q. Did you take into consideration the fact that the Grand Hydro had never filed a declaration of intention to the Federal Power Commission, or applied to the Federal Power Commission, for a license or permit to build a dam on Grand River?

Mr. HUDSON: Object to that as incompetent, irrelevant, and immaterial, and that has been answered in the opinion of the Supreme Court in this case.

The COURT: Overruled.

Mr. HUDSON: Exception.

By Mr. DAVIDSON:

Q. Did you take that into consideration?

A. I took — I didn't know what the facts were whether or not there had been a permit granted, or whether the Federal Power Commission — what had been done, but my opinion was entirely regardless of whether it had been done or not.

Q. It was regardless of whether they held a permit from the state or held a permit or license from the Federal Government — you gave that no consideration?

A. As I saw it, it wouldn't make a bit of difference.

Q. But I am asking you whether or not you gave any consideration to that?

A. I gave consideration to the fact that I included it in my mind, but that it didn't make any difference whether they had the different things from the government or not.

Q. And therefore you didn't give any consideration to that fact?

A. I didn't know the facts, so I couldn't.

Q. You didn't know whether they had a license of any kind?

A. No.

Q. Now, Mr. Justin, the larger percentage of those projects you have been connected with, either in the

capacity of appraising the dam site, or as consulting engineer on them, were located in the east, were they not?

A. No, sir, where is it you draw the line?

Q. Well, I would say east of the Ohio, and Mississippi Rivers?

A. Well, without giving a little time to it, and making a study, my impression is approximately half and half.

Q. Approximately half and half?

A. Yes, sir, certainly half of them were west of that line.

Q. Are you acquainted with the doctrine of riparian rights that apply to the eastern states?

A. I have heard the matters discussed.

Q. You know what it means?

A. Well, not very clearly.

Q. Are you familiar with the doctrine, the arid states' doctrine of water rights that prevails in the western states?

A. In the same way.

Q. You know there is a difference between the two?

A. In certain states.

MR. FOWLER: Your Honor, we will object to that line of cross-examination.

THE COURT: Sustained.

* * *

WILLIAM F. UHL, called on behalf of defendant, Grand Hydro, in chief, having been duly sworn on oath, on direct examination, testified as follows, to wit:

* * *

Q. Now, Mr. Uhl, would you indicate the price or value of the Pensacola dam site about which this lawsuit is concerned?

A. Yes, I would.

Q. You were engaged to put a price on that dam site?

A. Yes, I was.

Q. When were you so employed?

A. I think it was something in 1939 or 1940.

Q. By whom were you engaged?

A. I was engaged by Mr. Lyons of the Grand Hydro.

Q. Now, as a result of that engagement, have you studied the value of the Pensacola dam site?

A. I have.

Q. What sources of information have you used — how did you set about to acquire the knowledge you have to have in order to price it?

A. I was furnished with various reports and documents, information about it by both private and governmental agencies.

Q. Was that information of such character and quality and quantity as to enable you to form an opinion as to the value of the Pensacola dam site?

A. Yes, it was.

Q. Did you conclude that by reason of its physical formation and location, that it had a value as a dam site or did not have a value as a dam site?

A. I concluded from my investigation that it did have a value as a dam site.

A. That it did have a value as a dam site?

A. Yes, sir.

Q. Now, can you tell the jury in as few words as you can, just what led you to that decision — in a general way.

A. I found that a dam could be built there, and that the physical conditions were such that it would be feasible to build a dam; that a certain amount of water could be impounded there and stored there, and that a development could be made to create electrical energy which would be suitable for the market in this territory.

Q. Did you find that that energy would be available or marketable in competition with any other power that might be available there?

A. Yes, I determined that it would be.

Q. Mr. Uhl, I will ask you if, as a result of your investigation and your experience, you have formed an opinion as to the fair market value of the lands constituting the Pensacola dam site as of the years 1938, 1939, and 1940, in a transaction between a willing buyer and a willing seller, taking into consideration the uses to which those lands were reasonably adaptable and could in reason be applied at that time, but excluded from consideration the benefits of the proposed or existing improvements of the Grand River dam there? Have you formed such an opinion?

A. Yes, I have formed an opinion.

Mr. MARSHALL: That is objected to for the reasons heretofore stated, namely, that the type and the adaptable character of those lands has not been stated.

The COURT: Overruled.

By Mr. FOWLER:

Q. Now, Mr. Uhl, in forming that opinion as to the value, you knew, did you not, that Grand Hydro, the owner of these dam site lands, did not own all of the reservoir lands?

A. I knew that, yes.

Q. Did you arrive at your opinion as to the value despite the fact that they did not own all of the reservoir land?

A. Yes, sir.

Q. Was your opinion as to the value influenced by whether or not the Grand Hydro had any governmental permits or licenses to build the dam?

A. No, sir.

Q. Did you appraise it as an undeveloped dam site?

A. I did.

Q. Now, I will ask you to now state to the jury your opinion as to the amount of the fair market value of the dam site which I described to you?

Mr. DAVIDSON: Now, if the Court please, with the consent of counsel, may it be shown the same objections as to all questions propounded Mr. Justin may be interposed at this time, and the same objections as to this witness?

The COURT: The same objection interposed to the testimony of the witness Justin, and the same ruling of the Court.

Mr. DAVIDSON: Exception.

The COURT: All right.

The WITNESS: What was the question?

(At this time the question is duly read to the witness by the reporter.)

A. My opinion of the fair cash market value of the dam site is \$1,000,000.

By Mr. FOWLER:

Q. Now, in asking you this next question, Mr. Uhl, I am going to ask you to disregard the fact that in 1935, the State of Oklahoma passed this Grand River Dam Authority Act, which purported to give the Authority the exclusive jurisdiction over this part of the river, and disregarding that Act, I will ask you if in 1938 and 1940, there was a reasonable probability that this dam site land would be combined with other lands necessary to the completion of a water power project within the reasonably near future, as of that date?

Mr. DAVIDSON: The Authority objects to the question for two reasons: First, because it hasn't been shown that this witness is qualified to express an opinion on the question submitted him, and second, because the question is not predicated on facts appearing in the record in this case.

The COURT: Overruled.

Mr. DAVIDSON: Exception.

A. In my opinion there was such a probability that the lands would be combined for a dam site.

Mr. FOWLER: You may cross-examine him.

CROSS EXAMINATION

By Mr. DAVIDSON:

Q. Mr. Uhl, these lands could not be used as a dam site unless you also had under your control the necessary lands on which the flood waters, on which the flood waters would be impounded by the dam, could it?

A. No, sir.

Q. And without those necessary reservoir lands, the dam site would have no value as a dam site, would it?

A. Oh, yes, sir.

Q. But if you couldn't use it.

A. Couldn't use it?

Q. Yes.

A. The dam site had a value.

Q. Regardless of whether or not you could use it?

A. Of course you could use it.

Q. You just answer my question. You couldn't use it unless you had the reservoir lands under your control in which the water is impounded, could you?

A. That is true.

Q. If you didn't have the reservoir lands you couldn't use the dam site lands for a dam site, could you?

* * *

A. Not until you acquired the lands, but I don't know of any reason why you couldn't acquire them.

Q. And unless you could, the dam site would have no market value as a dam site, would it?

A. That's true.

Q. Mr. Uhl, do you know anything about the status of the ownership of the lands of the reservoir of the Grand River dam project?

A. No, sir.

Q. You don't know whether or not any of that land was owned by the State, or the federal government, or by Indian tribes?

A. Only by hearsay.

Q. Only by hearsay?

A. That's right.

Q. You don't know how much is owned by the State or how much is owned by the federal government?

A. No, sir.

Q. Or how much is owned by Indian tribes?

A. No, sir.

Q. Do you know anything about the roads and highways that would have to be relocated if the dam was built?

A. Only in a general way.

Q. You never did go over this project—just looked at the dam one time, didn't you?

A. Well, I have been on the railroad and observed the reservoir.

Q. From the railroad?

A. Yes, sir.

Q. And that is about the extent of your acquaintanceship with Oklahoma, isn't it?

A. Pretty near.

Q. You have lived in the east all your life, have you not?

A. Oh, no.

Q. Ever live in the west?

A. Yes, indeed.

Q. But you have never lived in Oklahoma, have you?

A. No, sir.

Q. Do you know anything about the extent of the relocation of the railroads made necessary by this project?

A. No, sir.

Q. Do you know anything about the extent of the relocation of townsites made necessary by this project?

A. No, sir.

Q. Do you know anything about the extent making necessary the relocation of utility lines and telephone lines?

A. No, sir.

Q. Do you know anything about the number and length of pipe lines that had to be removed and relocated?

A. No.

Q. You know anything about the public utilities that have to be removed and relocated?

A. No, sir.

Q. Now, Mr. Uhl, of course you had in mind some specific kind of project being built that would justify a market value of this dam site at a million dollars, didn't you?

A. Within limits, yes, sir.

Q. What kind of a project did you visualize?

A. I visualized they would create a head of 125 feet power installation, but probably might begin with 50,000 kilowatts, and would ultimately have 90,000 or 100,000 or more kilowatts.

* * *

WILLIAM P. CREAGER, called on behalf of the defendant, Grand Hydro, after having been duly sworn on oath, on direct examination, testified as follows, to wit:

* * *

Q. Do you remember about when it was you were employed in this matter?

A. I think it was in 1939.

Q. When you were thus employed, did you undertake to investigate this dam site and determine its value?

A. Yes, sir.

Q. Just tell the jury what you did in order to arrive at your appraisalment.

A. I personally had a conference in Washington, and I received as much data as I could, and I went over to the Federal Power Commission and got a lot of data that was not among the reports that had been furnished to me, and I was out here and visited the site, went over the site, studied the conditions. The work was in progress at that time, and I took a trip up the lake and went down the river for about a mile, and I looked around and I went back to Buffalo, and—well, previous to that time I had done some work in Buffalo, and the next trip was at the previous trial, and then there was a rest for a few years, and I spent

about a week or ten days extending my studies for preparation for this new trial.

Q. Did you have furnished to you certain documents, such as the report of the Fargo Engineering Company and the report of Mead & Seastone?

A. Yes, sir, and other government reports.

Q. Did you get ahold of all government reports you could find pertaining to the subject?

A. Got ahold of all I could find. If there was any published pertaining to the subject, I didn't know about them.

Q. Did you consider the information set forth by the government publications, and other publications correct?

A. Yes, sir, I took the statistics for that.

Q. Was it sufficient to enable you to form an appraisal of the market value of this property?

A. That, together with more investigation and studies, and other knowledge of the subject, and I obtained a lot of government specifications, government reports.

Q. Now, did you come to any conclusion with respect to whether or not this particular piece of land here, which is said to consist of 417 acres, 362 acres that Senator Davidson has suggested as the tract, that comprised the dam site, did you come to any conclusion with respect to whether it had a special adaptability or value as a dam site?

A. Yes, sir.

Q. What was that conclusion?

A. That it did have a special adaptability value as a dam site.

Q. Now, did you arrive at an appraisal of the value of that piece of land considering that adaptability as a dam site?

A. Yes, sir.

Q. Will you tell the jury, in your own words, generally the facts that led you to conclude that it had a special value for dam site purposes, such as physical characteristics of the property, and the market conditions which your studies have impressed you with, and any other factors you might care to state to the jury.

A. I found that this dam site was particularly adapted for the installation of an economical dam and power house for the generation of power, and found that the foundations were suitable for a good foundation; that most any kind of a dam could be built there, a buttress reinforced core dam, or any other type of dam, solid concrete dam, earth dam, or a rock filled dam, and then that the site was adaptable to the installation of a hydroelectric power of from 60,000 up to 150,000 kilowatts; and then there was ample drainage to regulate the flow of the stream in order to use that water as anyone would desire to use it; that there was also sufficient head at the site for the generation of power, and then that the power which could be produced from that development at that site, could be used in the supplying of the market in place of building steam plants.

In other words, if the purchaser of this dam site had an increasing demand for power, he would have

a chance of either building a steam plant of anywhere from 60 to 150,000 kilowatts, or the installation of an hydroelectric plant at this site for from 60 to 150,000 kilowatts, and then if he decided to build his 60 to 150,000 kilowatts installation at this site of an hydroelectric power plant, he could do it very much more cheaply and more satisfactorily than he could a steam plant, and that he could afford to pay a considerable sum for this site and develop it in supplying the market in preference to any other method for supplying that market; and found that the site was strategic located with respect to the market, and found there was ample growth to justify the purchase of the property for the creation of power for the market, and found that this site, that it was adaptable for storage, in that it would improve the power site below on the river and found that conditions were such that one could easily expect there would be a purchaser for the property.

Q. Now, Mr. Creager, is there any difference in placing the value upon a dam site in Oklahoma from any other part of the United States in the general conditions that you apply to the subject?

A. No, sir, the method is the same.

Q. Now, based upon your experience that you have outlined in the appraisals of property, and based upon your familiarity with this particular Pensacola dam, I will ask you if you formed an opinion as to the fair market value of those lands constituting the Pensacola dam site, as of the years 1938, 1939, and 1940, in a transaction between a willing buyer and a willing seller, taking into consideration the uses to which the

dam site lands were adaptable, and could in reason be applied at that time, excluding from your consideration the benefits of the proposed, or existing improvements, of the Grand River Dam Authority? Have you formed such an opinion?

A. Yes, sir.

Q. Now, I will ask you before I ask you what that opinion was, and what that fair market value was, do you know that the Grand Hydro, the present owner of the dam site, or the owner at the time of the condemnation, owned only a small part of the reservoir lands?

A. Yes, sir, I knew that.

Q. Did you arrive at your opinion as to the fair market value considering that fact?

A. Yes, sir.

Q. And you appraised it as an undeveloped dam site?

A. Yes, sir.

Q. And did you appraise it without regard to the fact, without regard to whether or not the Grand Hydro had any privileges or permits or licenses, from some government authority?

A. I did not take that into consideration.

Q. Now, I will ask you then to now state to the jury the fair market value as above outlined.

MR. DAVIDSON: Your Honor please, we would like to now *to* interpose the same objection we interposed to the corresponding question asked the witness Justin, and also no adequate foundation has been laid of the

description of the character and use, which forms the basis of the witness' opinion as to values.

The COURT: The record may so show, show the same objection and same ruling, and the exception as has been interposed to the testimony of Mr. Justin where the same question was raised.

A. In excess of \$900,000.

By Mr. FOWLER:

Q. Now, this further question: I will ask you, I want you to take into consideration the fact that in 1935, the Oklahoma Legislature enacted this Grand River Dam Authority Act, so disregarding that Act, I will ask you as of 1938 and 1940, was there a reasonable probability that these dam site lands would be combined with other lands necessary to the completion of a water power project in the reasonably near future?

Mr. DAVIDSON: We object to that on the same grounds that we interposed before to a similiar question asked the witness Justin.

The COURT: Overruled. It goes to the weight of his testimony.

Mr. DAVIDSON: Exception.

By Mr. FOWLER:

Q. What is your answer?

A. Yes, sir.

Mr. FOWLER: That's all.

Cross-examination.

By Mr. DAVIDSON:

* * *

Q. Now, Mr. Creager, I will ask you if you knew at the time this dam site was taken by the Grand River Dam Authority, that the Authority had already acquired 29,000 acres of land in the reservoir?

Mr. HUDSON: Object to that as incompetent, irrelevant, and immaterial.

The COURT (To the reporter): What was the question?

(At this time the question is duly read to the Court by the reporter.)

The COURT: Overruled.

Mr. HUDSON: Exception.

The WITNESS: I didn't know that.

By Mr. DAVIDSON:

Q. Did you know that under the Act of the Legislature of Oklahoma creating the Grand River Dam Authority, it couldn't dispose of any of those lands that were necessary for the operation of the project?

Mr. HUDSON: Object to that as incompetent, irrelevant, and immaterial, and that question was overruled by the opinion of the Supreme Court in this case.

The COURT: Sustained.

Mr. DAVIDSON: Note an exception, and we make the offer that if the witness were permitted to testify, he would testify that he didn't know.

Mr. HUDSON: Same objection.

The COURT: Overruled.

Mr. HUDSON: Exception.

By Mr. DAVIDSON:

Q. Mr. Creager, did you know whether or not any of those reservoir lands were owned by the State of Oklahoma?

A. Why, I had all that information from Mr. Hunt's report. I had complete information, but I can't give you the exact details of it now. As I told you before, I took his estimates of the area from what I heard from him, and from what I could acquire.

Q. You knew, did you not, that that report was dated back in 1929?

A. When I said reports, I didn't necessarily mean a written report. I meant all the data I had obtained from him, either written or by word of mouth.

Q. Did you know whether or not there was any government owned land in that reservoir that had to be acquired?

A. I don't recall that. I would have to look in my book here to find it. If you will pardon me a moment, if you think that would help any here.

Q. Oh, I just wanted to know whether you knew it or not. You had that information around January, 1940, did you?

A. I think it was the latter part of 1939 that I made those estimates.

Q. Did you have any information as to the status of the title of the various tracts of land in the reservoir area?

A. No, sir, no direct information.

Q. Did you have any information as to the number of railroads that had to be relocated?

A. Only from Mr. Hunt's information which he gave me.

Q. You never inspected the railroads that had to be relocated?

A. No, sir.

Q. Did you have any information as to the number of oil pipe lines and telephone lines that had to be relocated?

A. No exact information.

Q. And as to the number of pipe lines that had to be relocated?

A. No.

Q. Did you get any information as to the townsites had to be relocated?

A. I had been told about them.

Q. Did you make any study of the cost as to what the relocation of them would be?

A. As I told you before, I took Mr. Hunt's estimation of that.

Q. You made no inquiry of the value from anybody except Mr. Hunt about what was necessary to be done in order to utilize these lands for reservoir purposes?

A. No, sir.

Q. Did you make any investigation of the value as to the difficulties to accomplish the ownership, or acquisition of the lands that were necessary for this project?

A. I have been through quite a number of similar cases, and I haven't seen anything to show that this was different than the ones I have been through.

Q. Mr. Creager, I will ask you if it isn't a fact that any project—all of these projects, the company or the individual concerned that constructs the project, are required in order to unite the lands in one ownership, to use the power of eminent domain?

Mr. HUDSON: Object to that, if the Court please, as incompetent, irrelevant and immaterial.

The COURT (to the reporter): Read the question.

(At this time the question is duly read to the Court by the reporter.)

The COURT: Overruled.

Mr. HUDSON: Exception.

The WITNESS: Answer?

Mr. DAVIDSON: Go ahead.

A. It has been done quite a number of times without the power of eminent domain.

Q. Is that true in projects where the land is in private ownership, and you have to assemble it all under one control?

A. Yes, sir.

Mr. HUDSON: Object to that as incompetent, irrelevant, and immaterial—the same objection, and for the further grounds, your Honor, that the condemnee in this case has not sought to prove enhanced value of the dam site, because it possessed the power of eminent domain.

The COURT: Sustained.

By Mr. DAVIDSON:

Q. I will ask you, Mr. Creager, if you know of any project where it is necessary to unite under one ownership some 2500 separate tracts that were owned by

state, federal government, restricted Indians, and Indian tribes, that were united without the exercise of the power of eminent domain?

Mr. HUDSON: Object to that as incompetent, irrelevant, and immaterial and for the further ground the rule of eminent domain cannot be exercised against the government. I don't know of any way that you can condemn lands of the United States government.

The COURT: Overruled.

Mr. HUDSON: Exception.

Mr. DAVIDSON: Go ahead.

A. I don't know of any case of where the lands that you mention, the type you mention, were acquired by eminent domain.

Q. Do you know of any single instance of where there was something like 2500 separate tracts to be acquired?

A. I don't know about the 2500—

The COURT (Interrupting): I believe that is argumentative.

The WITNESS (Continuing): but I do know of a number of cases where there was a large number that was obtained without the aid of eminent domain.

By Mr. DAVIDSON:

Q. I believe you testified on direct examination, that I asked you this—just to be sure in my own mind, if you didn't take into consideration in making your estimate, whether or not the Grand Hydro had a permit from the State of Oklahoma or the federal government to build this project. Were you asked that on direct examination?

A. I think so.

Q. And you said you didn't take that into consideration?

A. Yes, sir.

* * *

Recross-examination.

By Mr. DAVIDSON:

Q. Mr. Creager, in making your estimate of value, did you assume that the Grand Hydro had the right to and could use this dam site for dam site purposes, didn't you?

A. Yes, sir.

Q. As a matter of fact—

Mr. HUDSON (Interrupting): We move to strike it as incompetent, irrelevant, and immaterial. The test is whether or not the purchaser could use it.

Mr. DAVIDSON: I will modify the question to include the Grand Hydro, or any ordinary grantee of the Grand Hydro.

Mr. HUDSON: Incompetent, irrelevant, and immaterial, so far as it includes the condemnee, because that couldn't affect the market value. The condemnee can sell his rights.

The COURT: Overruled.

Mr. HUDSON: Exception.

By Mr. DAVIDSON:

Q. Mr. Creager, this—this dam site—what was your answer to the revised question?

A. Yes, sir.

Q. Now, this dam site would have no value as a dam site, no market value as a dam site, unless it could be used for that purpose, would it?

A. No.

Q. And you couldn't use this dam site for a dam site, unless you had the lands on which to impound the waters above the dam, could you?

A. You couldn't use it until some—it couldn't be used until some one had obtained those lands for the reservoir.

Q. And you couldn't use it as a dam site without using a reservoir in connection with it, could you?

A. No, sir.

* * *

ROBERT E. HORTON, called on behalf of defendant, Grand Hydro, in chief, after having been duly sworn on oath, on direct examination testified as follows, to wit:

* * *

Q. Now, Mr. Horton, let me ask you this: Does it make any difference in which part of the United States the undeveloped dam site is located with respect to what it is you have to apply to appraise it?

A. No, I would say not. The elements of value are the same, but they differ in degree and character. There might be a great difference between two power projects and dam sites in the State of Pennsylvania, or in other places, in California, or other places, but the general principles are the same anywhere.

Q. Mr. Horton, were you employed by Grand Hydro to appraise the Pensacola dam site?

A. I was, yes.

Q. About when were you employed?

A. Early in October 1940.

Q. Who employed you?

A. Mr. B. F. Lyons, of the Grand Hydro Company.

Q. What did you do in response to that employment?

A. I made studies, and later came out here and investigated the Pensacola project, which, of course, at that time was fully developed, and I gathered information from various sources, including government reports with which I was familiar, and with which I had worked in relation to the power facilities of the Grand and Neosho Rivers, including the reports of the War Department, of which there was two, and I have access to the report of the National Resources Board—various reports and studies which had been made by the owners of the Grand Hydro and which were available to me. The stream flow records, much of which I had already studied, and analyzed in connection with my other work independent of this, and the general power situation and market for hydro-electric energy, the development of energy which is generally required, and which could be produced by development of the Pensacola project.

Q. You obtained all of the information you could get your hands on, did you?

A. Yes, I think I did.

Q. Did you consider that sufficient to enable you to make an independent appraisal of the value of this land as a dam site?

Q. Now, this dam site would have no value as a dam site, no market value as a dam site, unless it could be used for that purpose, would it?

A. No.

Q. And you couldn't use this dam site for a dam site, unless you had the lands on which to impound the waters above the dam, could you?

A. You couldn't use it until some—it couldn't be used until some one had obtained those lands for the reservoir.

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A. Mr. B. F. Lyons, of the Grand Hydro Company.

Q. What did you do in response to that employment?

A. I made studies, and later came out here and investigated the Pensacola project, which, of course, at that time was fully developed, and I gathered information from various sources, including government reports with which I was familiar, and with which I had worked in relation to the power facilities of the Grand and Neosho Rivers, including the reports of the War Department, of which there was two, and I have access to the report of the National Resources Board—various reports and studies which had been made by the owners of the Grand Hydro and which were available to me. The stream flow records, much of which I had already studied, and analyzed in connection with my other work independent of this, and the general power situation and market for hydro-electric energy, the development of energy which is generally required, and which could be produced by development of the Pensacola project.

Q. You obtained all of the information you could get your hands on, did you?

A. Yes, I think I did.

Q. Did you consider that sufficient to enable you to make an independent appraisal of the value of this land as a dam site?

A. Yes, sir.

Q. Tell the jury what you found with respect to any advantages of this land as being adapted as a dam site?

A. I found that there was a strong channel in the river at this location with rock foundations and rock for abutments, which for a dam is always desirable, and there was material available also which could be utilized for an earth or a part earth dam, if so desired. So far as the dam site was concerned, there was available alternatives as to the manner or types of construction, which is always desirable, because the type of development always depends to a considerable extent on who uses it.

I found the dam site favorable, and the borings showed sound rock underneath that this location; also it was the uppermost dam site of the Grand and Neosho Rivers where sound rock existed, and has a large drainage area and provided a regular flow of the stream, so that it would serve, not only as a basis for power development at the Pensacola site itself, but it in the future *it* would provide a regular line for other power developments further downstream; and then, also that the site projected the building of a dam of sufficient height to provide a large volume of storage, and the value of the dam site largely depends on, you might say, four things: The amount of heads, or flow, which can be used; the amount of flow of the stream, the degree to which that flow can be regulated so it can be used to produce the energy when and where required, together with the cost of development,

and in addition to that, the location with reference to the market, and then this dam site is located in a region which I considered to be very favorable as regards the market for the type of energy which could be produced. Now, there are some things less favorable; the reservoir itself is somewhat irregular in outline, and covers things out of line in various tracts, which necessitates a large area of land being used, which would not be required in a more compact reservoir, but that is characteristic in the Grand River valley but outside of mountain regions and regions where there are no closer lakes and you can get a more compact reservoir, but, as I said, that is characteristic of practically all dam sites in the Mississippi valley and it is no more or less objectionable than the average, and it is highly desirable taking into consideration all of the representations which I have described.

Q. Was this dam site close enough to the center of consumption of electricity to make it desirable?

A. In my opinion it is, especially in a system for the use of energy. These different utility companies power, they interchange, so that when one has a surplus of energy, it can be used by another, so you can put your finger on a particular customer. It goes to anybody that needs it, and it may be acquired within a radius of 300 miles or more.

Q. Now, Mr. Horton, based upon your investigation of this particular site, and all facts which affect it, and based upon your general experience in your profession, I will ask you if you have formed an

opinion as to the fair market value of those lands constituting the Pensacola dam site as to the years 1938, and 1940, in a transaction between a willing buyer and a willing seller, taking into consideration all the uses to which they were reasonably adaptable and could in reason be applied at that dam, excluded from your consideration the benefits of the proposed or existing improvements by the Grand River Dam Authority. Have you formed such an opinion?

A. I have.

Q. Before I ask you how much that opinion goes to, did you know that the Grand Hydro, the owner of that dam site at that time, did not own all of the reservoir land?

A. I knew that it did not.

Q. Did you arrive at the figure as to the value which you will testify to in a few minutes, despite that fact that the Grand Hydro did not own all of the reservoir land?

A. Yes, sir, I figured—you might say my judgment was based on that state of facts, that it didn't own all of the lands and its value under those conditions, despite the fact that it didn't own it.

Q. You valued it as an undeveloped dam site?

A. I did.

Q. Did you arrive at this value without reference to whether or not the Grand Hydro in itself held any license or permit from any governmental body?

A. I would have to answer that this way: I took that into consideration, and I did not assume that the

owner of this land did have any federal license at that time. It is a question—it is the man who bids on it, rather than the man who owns it that needs this license.

Mr. MARSHALL: He says the man who buys it rather than the man who owns it as to securing the necessary permits. We object to that for the reason it is incompetent, irrelevant, and immaterial, and states a conclusion of law on the part of the witness, and I ask that the jury not consider that portion of that answer.

By Mr. FOWLER:

Q. What has been your experience, Mr. Horton, in past situations involving the same questions, as to which it is that needs the permit?

Mr. MARSHALL: Same objection is interposed to that question for the reason his past experiences has no—is no criterion from which to determine the market value.

The COURT: I believe I will sustain the objection.

Mr. MARSHALL: Will your Honor instruct the jury not to consider that part of the witness' testimony?

The COURT: It is probably a matter of law.

Mr. FOWLER: It seems to be a matter that can be testified to as a fact through his experiences. This was partially true anyhow.

The COURT: He can state what he took into consideration. The Court probably will instruct the jury on it.

Mr. FOWLER: Exception.

The COURT: Just that particular part.

By Mr. FOWLER:

Q. Now, Mr. Horton, will you tell the jury as to whether it was necessary or not necessary for a permit at the time—strike that part. Just as a conclusion, the conclusion, you will disregard and that only. Now, Mr. Horton, will you tell the jury what your opinion is as to the fair market value as of 1938, and as of 1940, as I described in my question concerning the fair market value?

A. Yes.

Mr. DAVIDSON: We object to that, if the Court please. The plaintiff objects, without repeating the objection for the reasons assigned in the objections to the testimony of the witness Justin, relative to the same matter, and if counsel has no objection, I don't desire to repeat the objection in full.

Mr. Fowler: That's all right.

The COURT: The record may show the same objection to this question as above propounded to Mr. Justin. Overruled.

Mr. DAVIDSON: All right.

A. \$750,000.

* * *

Cross-examination.

By Mr. DAVIDSON:

* * *

Q. Now, Mr. Horton, in arriving at your estimate on this dam site, did you calculate the cost of the project, what it could be built for?

A. Yes, I used figures on costs and quantities that were furnished to me by the Grand Hydro, and from the reports of the Army Engineers and the National Resources Board, and I checked that over and compared that with data which I had for cost considerations.

tion, which was an independent estimate of the old

Q. What type of project did you take as the basis for your calculations?

A. Not any one specific type, as the opportunity existed for construction of dams of several types from the type that was used, and the earth dam, and I considered both in comparison, and in my opinion there was a leeway of which the different types of construction that could be made, which were economically sound.

Q. Is your estimate based on any particular capacity of the project?

A. Four to six units, and my final figure is the result of calculations and studies, and the answer to your question so far as the calculations were concerned, I considered a plant with four operating units, and a fifth unit for use to keep up the power at times when the head flow was reduced by the tearing down of the river.

Q. Now, what head did you use in your judgment of that value?

A. A 130-foot head, with a 140-foot operating head.

Q. What height of dam would that involve?

A. That would be a spillway elevation — I don't carry all of those figures in my mind.

Q. Did you investigate the market for power in this area?

A. Yes, I largely relied on the report of the National Resources Board, and I asked the engineers to submit that to me, based upon the data collected by the Federal Power Commission.

Q. Did you calculate the possible revenues from the project?

A. Yes, I gave that consideration. That is a thing where you can't use some particular figure, because different customers very probably will use it in different ways. I gave that very careful consideration.

Q. And as a result of your studies of the cost of the project, and the revenues which might be obtained from it, you figured from that that the dam site was worth \$750,000?

A. Yes, sir, all things being considered, it was my final judgment that it was worth \$750,000.

Q. Mr. Horton, did you know that at the time that this dam site was taken by the Grand River Dam Authority, the Authority had already acquired and owned approximately 29,000 acres of the reservoir land of this project?

Mr. HUDSON: Object to that, if the Court please, as incompetent, irrelevant and immaterial.

The COURT: Overruled.

Mr. HUDSON: Exception.

A. I didn't know how much they had acquired. I knew they had acquired some land—that they were acquiring land.

Q. Did you know that there was some 1200 or 1300 acres of state owned land that required an act of the Legislature to get title to?

A. I think I did. I recalled that question being raised at the time I was here.

Q. Did you know that there was a large acreage of tribal lands involved in the reservoir?

A. Yes, I knew that lands—perhaps that is a legal question, but I knew that that question exists in this part of Oklahoma very frequently, that Indian rights in tribal lands do exist, but at the present time it is one of those things that isn't stressed greatly in affecting the value of power sites.

Q. Did you know that a large acreage of lands owned by restricted Indians, had to be approved by the Secretary of the Interior—did you know that?

A. Not as to any specific item, but I knew those questions of the Indian lands existed.

Q. Did you know that the construction of this project involved the relocation or removal of the trackage of two railroads, one of about seven miles, and the other about five?

A. Yes.

Q. Did you know the number of telephone and utility lines that had to be removed and relocated?

A. I had figures on that, figures on railroads, public utilities, cemeteries, and other items outside of the actual land that was involved here, and as to the other things mentioned, I took them all into consideration.

Q. Did you make your calculations, or take into consideration, in making your estimate, of the type or the physical aspects, I might say, of the project, that was covered in the Fargo Engineering Company's report?

A. Yes, sir, I knew the reports that had been made by the Fargo Engineering Company, and they related to, what I would call the physical aspects, of the dam site.

Q. And they involved a project very similar to the one the Grand River Dam Authority built?

A. Yes, to the one that was actually built.

Mr. DAVIDSON: I think that is all.

Mr. FOWLER: Come down, Mr. Horton.

(Witness excused.)

Mr. DAVIDSON: Your Honor please, the Authority moves now that the testimony of this witness be stricken, for the reason that his own estimate shows it is based on the worth of this project to the builder, but not from the standpoint of—over and above the cost of construction, and it is based on a construction cost which is inhibited by the decision.

The COURT: Overruled.

Mr. DAVIDSON: Exception.

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